



September 20, 2019

Mr. David Hale
Omni Properties, LLC
6 Liberty Way, Suite 203
Westford, Massachusetts 01886

Subject: Subsurface Investigation
55 Summer Street Rear (Map 52, Lot 78), Walpole, Massachusetts (the Site)

Dear Mr. Hale:

ENSTRAT is pleased to provide this letter report discussing the results of environmental services completed at the above referenced property. Based upon historical aerial photographs (See Figure 2) which depicted a cart path leading from the Bird Manufacturing Facility (east of the Site) to this parcel and historical clearing of this land, ENSTRAT was authorized to conduct a subsurface evaluation which consisted of completing visual observations and field screening of soil, limited groundwater and soil testing to evaluate potential dumping of solid waste and/or spills or releases from former Bird Manufacturing operations. It should be noted that access to the property was limited by dense vegetation and shallow bedrock along the eastern portions of the property limited the installation of additional monitoring wells.

Test Pits

On September 4, 2019 a backhoe was utilized to complete ten test pits in two distinct areas where historical clearing of vegetation was observed from aerial photography. The cleared areas were observed on 1950s and 1960s photographs. The Site presently consists of wooded land and wetlands. For reference, Area A is the eastern clearing and Area B is the western clearing (See Figure 2 and 3). The locations of the test pits are illustrated on Figure 3 in the Appendices. Test Pits A1 through A8 were positioned throughout the larger eastern clearing and were completed to a depth of approximately five feet below ground surface. Test pits A5 through A8 were positioned in the vicinity of the inferred location of a former cart path (based on visual observations of tire depressions and lack of tree growth as identified by Mr. Brian Butler of Oxbow Associates,



Inc.). Materials generally consisted of brown medium to coarse sand, gravel, and some silt. Test Pits B1 and B2 were completed in the former western clearing (Area B) to a depth of five feet bgs and materials consisted of an organic soil at the surface (8 to 10 inch depth) and then consisted of brown medium to coarse sand and gravel. Fill and/or evidence of dumping were not encountered in any of the test pit locations. See Photos in the enclosures. Based on the lack of evidence of dumping found during the initial excavation activities, additional test pits were not completed.

Soil samples collected from each test pit were field-screened for VOCs using a Thermo Environmental Instruments, Inc. 580S Organic Vapor Meter (OVM) photoionization detector (PID). This PID is equipped with a 10.6 electron-volt lamp and was calibrated to an isobutylene standard and adjusted with a response factor to benzene prior to screening. The sensitivity of the instrument to VOCs other than the calibration gas varies. However, most priority pollutant VOCs are ionized at this potential and will generate a response on the instrument. The samples were tested via the headspace scan technique, which did not exhibit a positive response on the PID. Olfactory or visual evidence of petroleum and/or hazardous materials was not observed in soil from any of the test pits. Based on the lack of positive responses and visual evidence samples were not laboratory analyzed.

Surficial Soil Sampling, Analyses, and Results

A surficial soil/sediment sample was collected at a wetland area along the southern portion of the Site along the railroad line where Oxbow Associates personnel observed a wetland and outfall pipe which is likely associated with Ruckaduck Pond located east of the tracks and within the Bird Manufacturing Facility. The sample was collected from 0 to 1 feet bgs and consisted of silt and organic material. The sediment sample was screened for total volatile organic vapors using a PID and it did not exhibit petroleum odors or total volatile organic vapors. The sediment sample was laboratory analyzed for EPH, Metals, and VOCs. Laboratory Certificates of Analysis for the sample is included in the Enclosures.

The laboratory results indicated one EPH carbon fraction and several metals were detected at very low concentrations; well below the applicable RCS-1 DEP Standards. All other analytes were not detected above laboratory detection limits. See Table 1 in the Enclosures for the complete results.



Soil Boring & Monitoring Well Installations

On September 12, 2019 GeoSearch, Inc. of Sterling, Massachusetts installed one groundwater monitoring well (EN-1) and completed nine additional soil borings (B-1 through B-9) utilizing a Geoprobe. The locations of the borings and monitoring wells are illustrated on Figure 3 in the Appendices. The monitoring well was installed according to the standard protocols presented in the Enclosures.

The monitoring well was set to a depth of 11.5 (refusal) feet below the ground surface (bgs). Monitoring well EN-1 and soil borings (B-1 through B-9) were situated along the eastern property boundary of Area A and in the vicinity of the former cart path. Each of the borings was completed to a maximum depth of 4 feet bgs due to refusals on what is thought to be bedrock. Based on the consistency of refusals and the visual observations of bedrock outcrops immediately south of the desired drilling area further locations were not accessible and/or deemed necessary.

The monitoring well was constructed with one-inch-diameter, Schedule 40 polyvinyl chloride (PVC) casing and 0.010-inch slotted PVC screen. The screened portion of the well was positioned to span the top of the water table to detect the presence of floating product. The annular space around the well was backfilled with silica sand to approximately one-half foot to three feet above the screened interval, at which point an approximately one-foot-thick bentonite seal was placed. The monitoring well was completed with a two-foot stick up. The top of the well casing was capped with an expansion plug. Soil boring logs, including the monitoring well construction diagram, are included in the Enclosures for further reference.

Groundwater Sampling, Analyses, and Results

Prior to groundwater sampling activities on September 17, 2019 indications of olfactory or visual signs of petroleum were not observed in water collected from the well. The groundwater sample was subsequently placed in appropriate containers and cooled prior to delivery to Alpha on September 17, 2019. The groundwater sample was laboratory analyzed for EPH, Metals, and VOCs. Laboratory Certificates of Analysis for the samples are included in the Enclosures. According to available DEP Priority Resource maps, the Site is situated within a Sole Source Aquifer and Town of Walpole Primary Recharge Area; therefore, the groundwater classification is considered GW-1 for reporting purposes established by the DEP.



The laboratory results indicated all EPH analytes were not detected above laboratory method detection limits. Low concentrations of five VOCs (chloromethane, trichloroethene, cis 1, 2-dichloroethene, acetone, and tetrahydrofuran) were detected; however, each of these concentrations was below the applicable DEP standard. Copper Lastly, a low concentration of copper was detected at a level well below applicable DEP standards. All other VOC and metal analytes were not detected above laboratory detection limits. See Table 2 in the Enclosures for the complete results.

Based upon the results of the visual observations and field screening of soil in the test pits, soil testing at the location of a wetland and outfall pipe, and groundwater testing, significant indications of impact from the potential historical activities carried out at the Site were not identified in the assessed locations. Therefore, further assessment activities at the Site are not recommended.

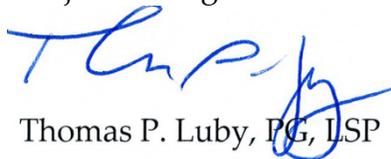
Please contact the undersigned if you require further information regarding this project.

Sincerely,
ENSTRAT, INC.



James O'Driscoll

Project Manager



Thomas P. Luby, PG, LSP

Principal / Technical Manager

Enclosures:

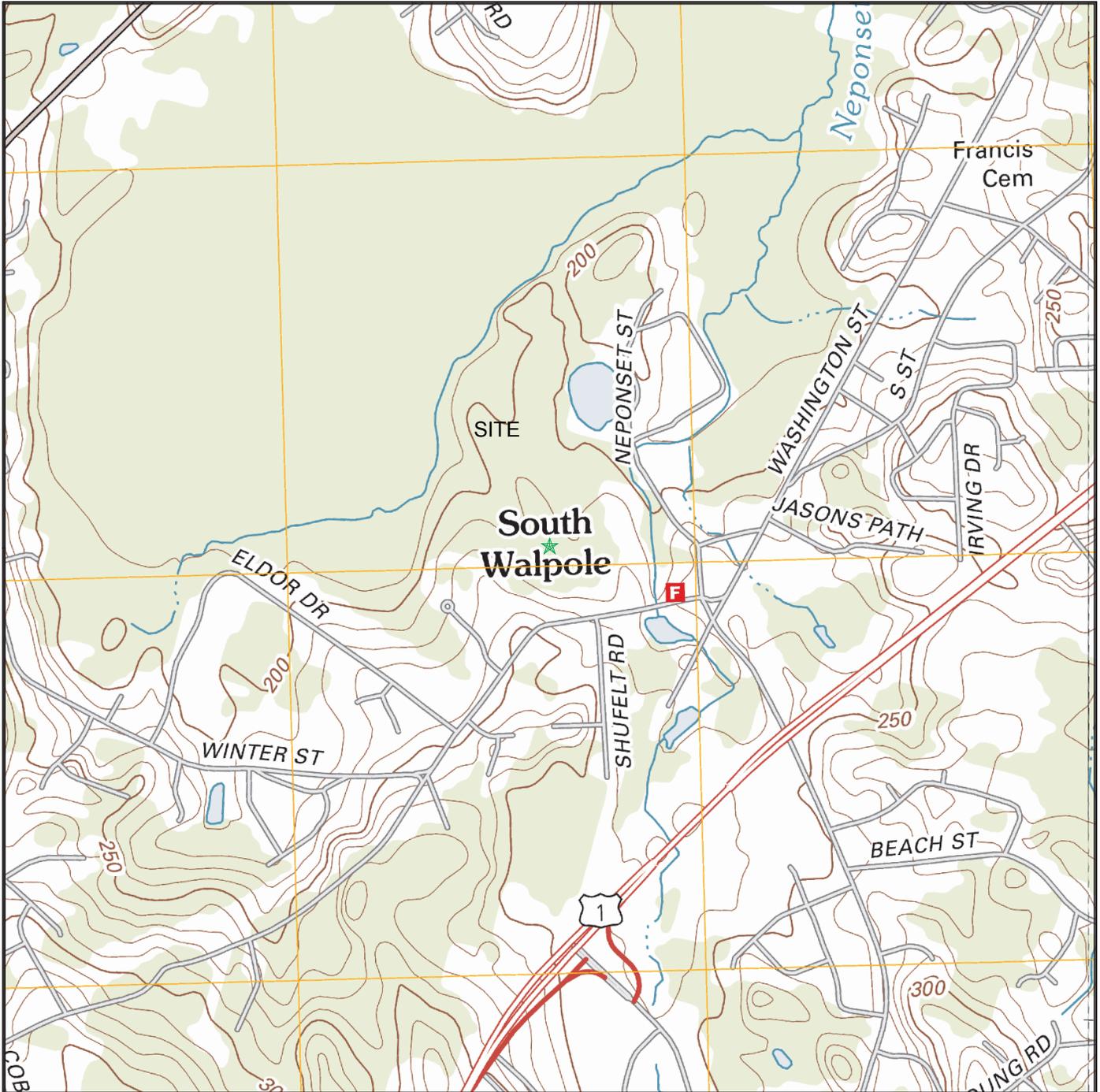
Site Figures, Tables, Protocols, Photographs, Boring Logs, and Laboratory Data

Site location Map

Topo: 0.75 Mile Radius



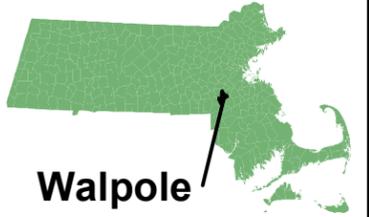
51-55 SUMMER STREET SOUTH WALPOLE, MA 02071



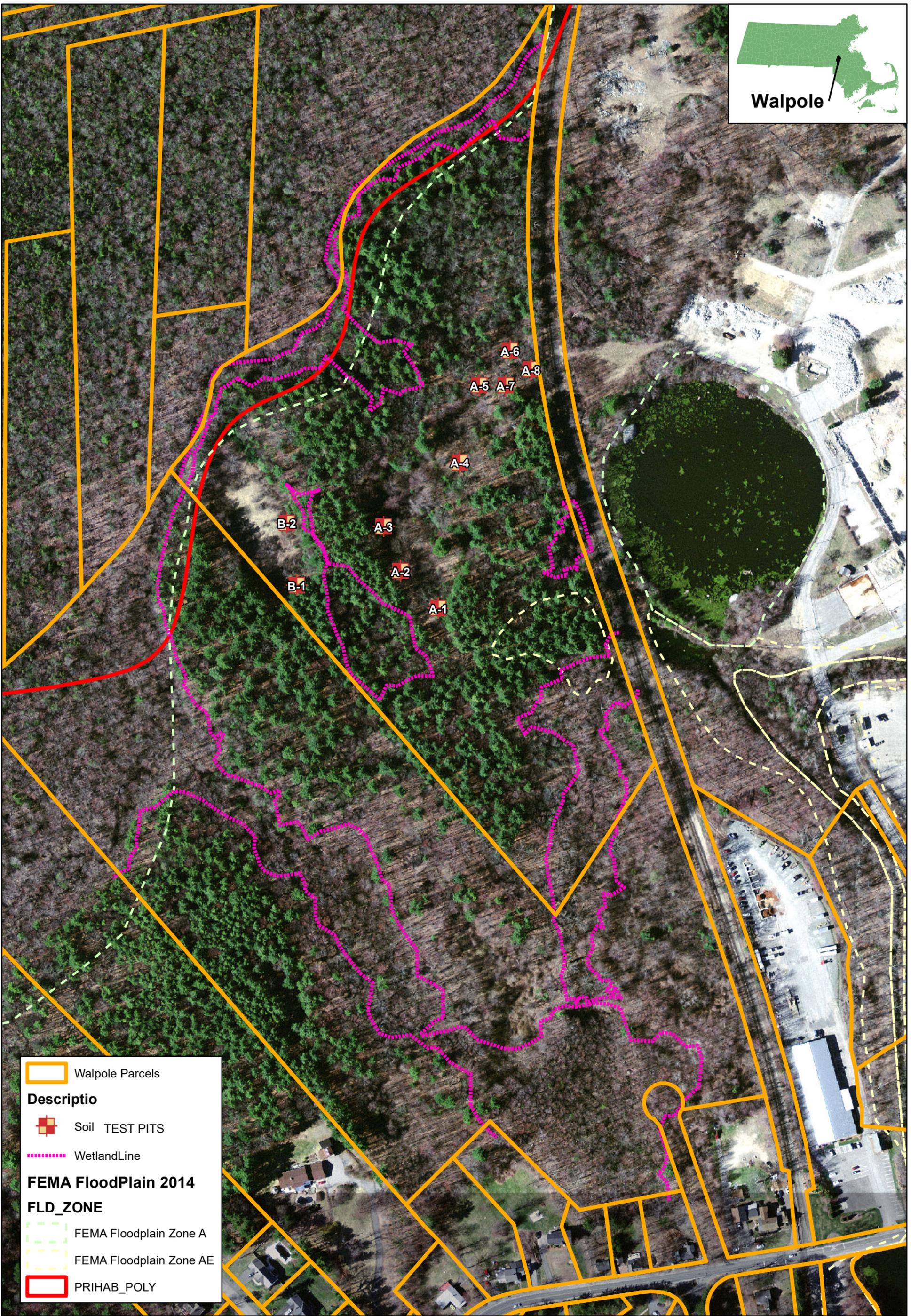
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Map State(s): MA
Version Date: 2012
Map Image Position: SE
Map Reference Code & Name: 5645762 Mansfield
Map State(s): MA
Version Date: 2012



PROJECT NUMBER: 2019-84	LOCATION: 55 Summer Street Rear Walpole, Massachusetts	NORTH: 	APPROX. SCALE: NTS
FIGURE NUMBER: 2	FIGURE NAME: Aerial Photograph - 1952	DESIGNED BY: JOD	DATE: 9/19



Walpole



Walpole Parcels

Descriptio

Soil TEST PITS

WetlandLine

FEMA FloodPlain 2014

FLD_ZONE

FEMA Floodplain Zone A

FEMA Floodplain Zone AE

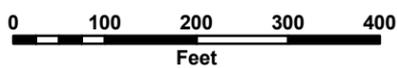
PRIHAB_POLY

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 Wetlands Delineation and Permitting
 Wildlife Studies • Herpetology
 Vernal Pool Ecology
 P.O. BOX 971
 ACTON, MASSACHUSETTS 01720
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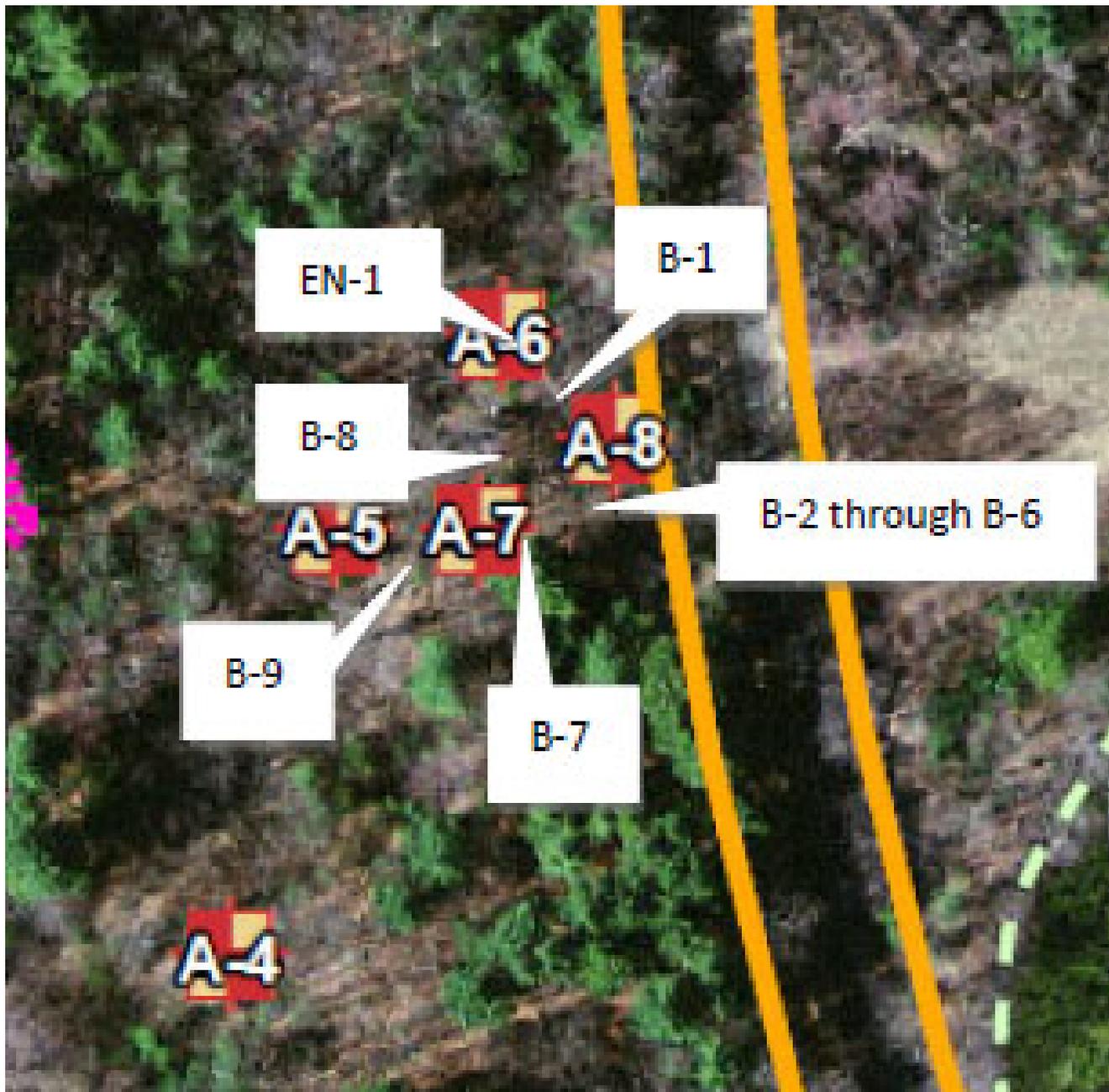


1:2,400

1 inch = 200 feet



Baker-Hughes Wets - Rough
2013 Orthophotograph
55 Summer Street
Walpole, MA



PROJECT NUMBER: 2019-84	LOCATION: 55 Summer Street Rear Walpole, Massachusetts	NORTH: ↑	APPROX. SCALE: NTS
FIGURE NUMBER: 3A	FIGURE NAME: Boring and Monitoring Well Locations	DESIGNED BY: JOD	DATE: 9/19

**Table 1: Summary of Soil Analytical Data: EPH, Metals, and VOCs
(hits only)**

LOCATION			OUTFALL		OUTFALL	
SAMPLING DATE			9/12/2019		9/12/2019	
LAB SAMPLE ID			L1942092-01		L1942092-01 R1	
SAMPLE TYPE			SOIL		SOIL	
SAMPLE DEPTH (ft.)			0-1		0-1	
	RCS-1-14	Units	Results	Qual	Results	Qual
Extractable Petroleum Hydrocarbons						
C11-C22 Aromatics		mg/kg	26.9		-	-
C11-C22 Aromatics, Adjusted	1000	mg/kg	26.9		-	-
MCP Total Metals						
Arsenic, Total	20	mg/kg	1.61		-	-
Barium, Total	1000	mg/kg	46.5		-	-
Chromium, Total	100	mg/kg	6.19		-	-
Lead, Total	200	mg/kg	19.7		-	-
Nickel, Total	600	mg/kg	3.03		-	-
Vanadium, Total	400	mg/kg	12.8		-	-
Zinc, Total	1000	mg/kg	30.7		-	-
MCP Volatile Organics by EPA 5035						
Acetone	6	mg/kg	0.23		0.027	

**55 Summer Street
Walpole, MA**

Table 2: Summary of Groundwater Analytical: EPH, VOCs, and Metals

LOCATION			EN-1	
SAMPLING DATE			9/17/2019	
LAB SAMPLE ID			L1942552-01	
SAMPLE TYPE			WATER	
	RCGW-1-14	Units	Results	Qual
MCP Dissolved Metals				
Copper, Dissolved	10000	ug/l	17	
MCP Volatile Organics				
Chloromethane	1000	ug/l	3	
Trichloroethene	5	ug/l	1	
cis-1,2-Dichloroethene	20	ug/l	1.5	
1,2-Dichloroethene, Total		ug/l	1.5	
Acetone	6300	ug/l	41	
Tetrahydrofuran	5000	ug/l	4.5	

**55 Summer Street Rear
Walpole, MA**



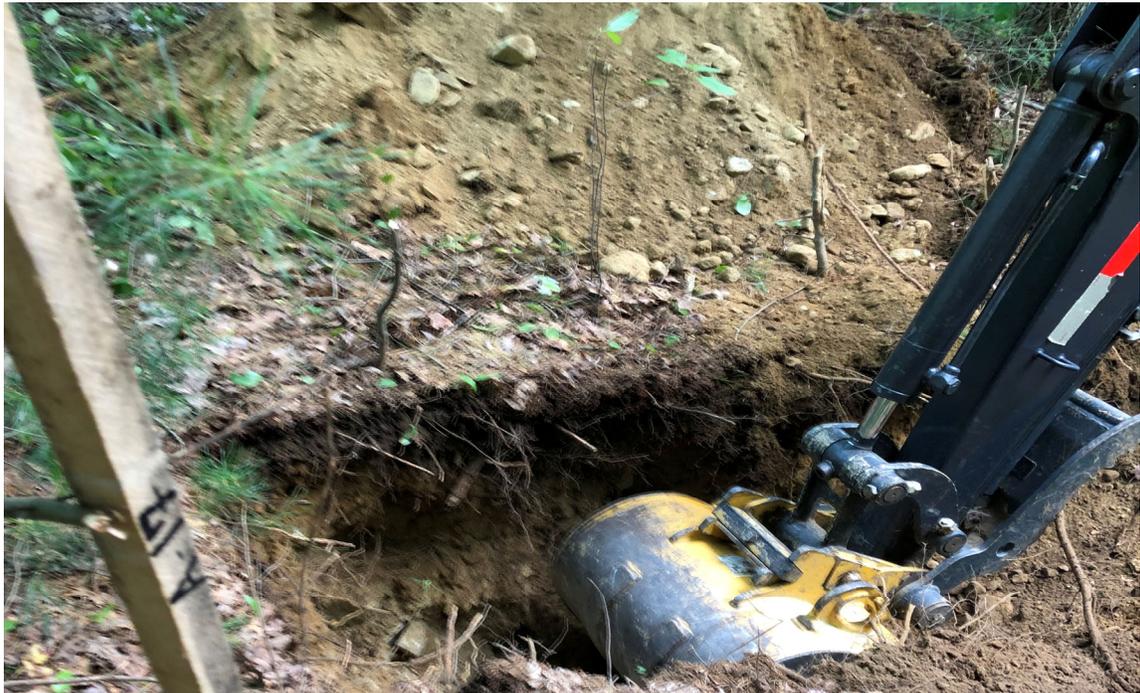
Test Pit A1



Test Pit A3



Test Pit B1



Test Pit A8

B-1 through B-9

Map 52, Lot 78

Walpole, MA

Project Number	2019-84	Drill Rig	Geoprobe
Geologist	JOD	Ground Elevation	Feet
Date Drilled	9/12/2019	Total Depth of Borehole	4 Feet
Borehole Diameter	3 Inches	Depth to Water	NA Feet

Graphic Log	Description	Depth	Sample	PID	Blow Counts	Completion
	Brown, fine to medium sand and gravel. Tight soil conditions. Refusal between 3 and 4 feet at each location.	<div style="display: flex; align-items: center;"> <div style="flex: 1; border-right: 1px solid black; margin-right: 5px;"></div> <div style="font-size: 0.8em; margin-left: 5px;">0</div> </div>		0	0	
		5				
		10				
		15				
		20				
		25				
		30				
		35				

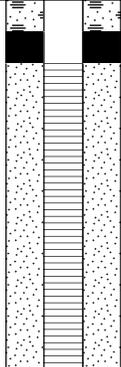
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EN-1

Map 52, Lot 78

Walpole, MA

Project Number	2019-84	Drill Rig	Geoprobe
Geologist	JOD	Ground Elevation	Feet
Date Drilled	9/12/2019	Total Depth of Borehole	11.5 Feet
Borehole Diameter	3 Inches	Depth to Water	11 Feet

Graphic Log	Description	Depth	Sample	PID	Blow Counts	Completion
	Brown, fine to medium sand and gravel.	0				
	Brown, fine to coarse sand and gravel. Tight soil conditions, water at 10.5'. Refusal at 11.5'.	5		0	0	
		10		0	0	
		15				
		20				
		25				
		30				
		35				

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ANALYTICAL REPORT

Lab Number:	L1942092
Client:	Enstrat 28 Lord Road Suite 205 Marlboro, MA 01752
ATTN:	Jimmy O'Driscoll
Phone:	(508) 460-6100
Project Name:	WALPOLE
Project Number:	2019-51A
Report Date:	09/18/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1942092-01	OUTFALL	SOIL	55 SUMMER ST	09/12/19 11:00	09/13/19

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

In reference to question H:

A Matrix Spike was not submitted for the analysis of Total Metals.

Volatile Organics

The continuing calibration standard, associated with L1942092-01, is included as an addendum to this report.

In reference to question H:

L1942092-01: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (49%) was below the acceptance criteria; however, re-analysis achieved a similar result: 1,4-dichlorobenzene-d4 (39%). The results of both analyses are reported; however, since the IS response was below method criteria (but not <20% of applicable calibration standard area counts), all associated compounds are considered to have a potentially high bias.

The initial calibration, associated with L1942092-01 and -01R, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0034), as well as the average response factor for 1,4-dioxane.

The continuing calibration standard, associated with L1942092-01R, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Melissa Sturgis

Title: Technical Director/Representative

Date: 09/18/19

QC OUTLIER SUMMARY REPORT

Project Name: WALPOLE

Lab Number: L1942092

Project Number: 2019-51A

Report Date: 09/18/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
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There are no QC Outliers associated with this report.

ORGANICS

VOLATILES

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1942092-01
 Client ID: OUTFALL
 Sample Location: 55 SUMMER ST

Date Collected: 09/12/19 11:00
 Date Received: 09/13/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 97,8260C
 Analytical Date: 09/17/19 09:50
 Analyst: JC
 Percent Solids: 53%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	15	--	1
1,1-Dichloroethane	ND		ug/kg	3.0	--	1
Chloroform	ND		ug/kg	4.4	--	1
Carbon tetrachloride	ND		ug/kg	3.0	--	1
1,2-Dichloropropane	ND		ug/kg	3.0	--	1
Dibromochloromethane	ND		ug/kg	3.0	--	1
1,1,2-Trichloroethane	ND		ug/kg	3.0	--	1
Tetrachloroethene	ND		ug/kg	1.5	--	1
Chlorobenzene	ND		ug/kg	1.5	--	1
Trichlorofluoromethane	ND		ug/kg	12	--	1
1,2-Dichloroethane	ND		ug/kg	3.0	--	1
1,1,1-Trichloroethane	ND		ug/kg	1.5	--	1
Bromodichloromethane	ND		ug/kg	1.5	--	1
trans-1,3-Dichloropropene	ND		ug/kg	3.0	--	1
cis-1,3-Dichloropropene	ND		ug/kg	1.5	--	1
1,3-Dichloropropene, Total	ND		ug/kg	1.5	--	1
1,1-Dichloropropene	ND		ug/kg	1.5	--	1
Bromoform	ND		ug/kg	12	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.5	--	1
Benzene	ND		ug/kg	1.5	--	1
Toluene	ND		ug/kg	3.0	--	1
Ethylbenzene	ND		ug/kg	3.0	--	1
Chloromethane	ND		ug/kg	12	--	1
Bromomethane	ND		ug/kg	5.9	--	1
Vinyl chloride	ND		ug/kg	3.0	--	1
Chloroethane	ND		ug/kg	5.9	--	1
1,1-Dichloroethene	ND		ug/kg	3.0	--	1
trans-1,2-Dichloroethene	ND		ug/kg	4.4	--	1

Project Name: WALPOLE

Lab Number: L1942092

Project Number: 2019-51A

Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1942092-01
 Client ID: OUTFALL
 Sample Location: 55 SUMMER ST

Date Collected: 09/12/19 11:00
 Date Received: 09/13/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	1.5	--	1
1,2-Dichlorobenzene	ND		ug/kg	5.9	--	1
1,3-Dichlorobenzene	ND		ug/kg	5.9	--	1
1,4-Dichlorobenzene	ND		ug/kg	5.9	--	1
Methyl tert butyl ether	ND		ug/kg	5.9	--	1
p/m-Xylene	ND		ug/kg	5.9	--	1
o-Xylene	ND		ug/kg	3.0	--	1
Xylenes, Total	ND		ug/kg	3.0	--	1
cis-1,2-Dichloroethene	ND		ug/kg	3.0	--	1
1,2-Dichloroethene, Total	ND		ug/kg	3.0	--	1
Dibromomethane	ND		ug/kg	5.9	--	1
1,2,3-Trichloropropane	ND		ug/kg	5.9	--	1
Styrene	ND		ug/kg	3.0	--	1
Dichlorodifluoromethane	ND		ug/kg	30	--	1
Acetone	230		ug/kg	30	--	1
Carbon disulfide	ND		ug/kg	30	--	1
Methyl ethyl ketone	ND		ug/kg	30	--	1
Methyl isobutyl ketone	ND		ug/kg	30	--	1
2-Hexanone	ND		ug/kg	30	--	1
Bromochloromethane	ND		ug/kg	5.9	--	1
Tetrahydrofuran	ND		ug/kg	12	--	1
2,2-Dichloropropane	ND		ug/kg	5.9	--	1
1,2-Dibromoethane	ND		ug/kg	3.0	--	1
1,3-Dichloropropane	ND		ug/kg	5.9	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.5	--	1
Bromobenzene	ND		ug/kg	5.9	--	1
n-Butylbenzene	ND		ug/kg	3.0	--	1
sec-Butylbenzene	ND		ug/kg	3.0	--	1
tert-Butylbenzene	ND		ug/kg	5.9	--	1
o-Chlorotoluene	ND		ug/kg	5.9	--	1
p-Chlorotoluene	ND		ug/kg	5.9	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	8.9	--	1
Hexachlorobutadiene	ND		ug/kg	12	--	1
Isopropylbenzene	ND		ug/kg	3.0	--	1
p-Isopropyltoluene	ND		ug/kg	3.0	--	1
Naphthalene	ND		ug/kg	12	--	1
n-Propylbenzene	ND		ug/kg	3.0	--	1

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1942092-01
 Client ID: OUTFALL
 Sample Location: 55 SUMMER ST

Date Collected: 09/12/19 11:00
 Date Received: 09/13/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	5.9	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	5.9	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	5.9	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	5.9	--	1
Diethyl ether	ND		ug/kg	5.9	--	1
Diisopropyl Ether	ND		ug/kg	5.9	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	5.9	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	5.9	--	1
1,4-Dioxane	ND		ug/kg	240	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	98		70-130

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1942092-01 R
 Client ID: OUTFALL
 Sample Location: 55 SUMMER ST

Date Collected: 09/12/19 11:00
 Date Received: 09/13/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 97,8260C
 Analytical Date: 09/17/19 20:32
 Analyst: MV
 Percent Solids: 53%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.9	--	1
1,1-Dichloroethane	ND		ug/kg	1.2	--	1
Chloroform	ND		ug/kg	1.8	--	1
Carbon tetrachloride	ND		ug/kg	1.2	--	1
1,2-Dichloropropane	ND		ug/kg	1.2	--	1
Dibromochloromethane	ND		ug/kg	1.2	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	--	1
Tetrachloroethene	ND		ug/kg	0.59	--	1
Chlorobenzene	ND		ug/kg	0.59	--	1
Trichlorofluoromethane	ND		ug/kg	4.7	--	1
1,2-Dichloroethane	ND		ug/kg	1.2	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.59	--	1
Bromodichloromethane	ND		ug/kg	0.59	--	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.59	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.59	--	1
1,1-Dichloropropene	ND		ug/kg	0.59	--	1
Bromoform	ND		ug/kg	4.7	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.59	--	1
Benzene	ND		ug/kg	0.59	--	1
Toluene	ND		ug/kg	1.2	--	1
Ethylbenzene	ND		ug/kg	1.2	--	1
Chloromethane	ND		ug/kg	4.7	--	1
Bromomethane	ND		ug/kg	2.4	--	1
Vinyl chloride	ND		ug/kg	1.2	--	1
Chloroethane	ND		ug/kg	2.4	--	1
1,1-Dichloroethene	ND		ug/kg	1.2	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	--	1

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1942092-01 R
 Client ID: OUTFALL
 Sample Location: 55 SUMMER ST

Date Collected: 09/12/19 11:00
 Date Received: 09/13/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.59	--	1
1,2-Dichlorobenzene	ND		ug/kg	2.4	--	1
1,3-Dichlorobenzene	ND		ug/kg	2.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	2.4	--	1
Methyl tert butyl ether	ND		ug/kg	2.4	--	1
p/m-Xylene	ND		ug/kg	2.4	--	1
o-Xylene	ND		ug/kg	1.2	--	1
Xylenes, Total	ND		ug/kg	1.2	--	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	--	1
1,2-Dichloroethene, Total	ND		ug/kg	1.2	--	1
Dibromomethane	ND		ug/kg	2.4	--	1
1,2,3-Trichloropropane	ND		ug/kg	2.4	--	1
Styrene	ND		ug/kg	1.2	--	1
Dichlorodifluoromethane	ND		ug/kg	12	--	1
Acetone	27		ug/kg	12	--	1
Carbon disulfide	ND		ug/kg	12	--	1
Methyl ethyl ketone	ND		ug/kg	12	--	1
Methyl isobutyl ketone	ND		ug/kg	12	--	1
2-Hexanone	ND		ug/kg	12	--	1
Bromochloromethane	ND		ug/kg	2.4	--	1
Tetrahydrofuran	ND		ug/kg	4.7	--	1
2,2-Dichloropropane	ND		ug/kg	2.4	--	1
1,2-Dibromoethane	ND		ug/kg	1.2	--	1
1,3-Dichloropropane	ND		ug/kg	2.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.59	--	1
Bromobenzene	ND		ug/kg	2.4	--	1
n-Butylbenzene	ND		ug/kg	1.2	--	1
sec-Butylbenzene	ND		ug/kg	1.2	--	1
tert-Butylbenzene	ND		ug/kg	2.4	--	1
o-Chlorotoluene	ND		ug/kg	2.4	--	1
p-Chlorotoluene	ND		ug/kg	2.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.6	--	1
Hexachlorobutadiene	ND		ug/kg	4.7	--	1
Isopropylbenzene	ND		ug/kg	1.2	--	1
p-Isopropyltoluene	ND		ug/kg	1.2	--	1
Naphthalene	ND		ug/kg	4.7	--	1
n-Propylbenzene	ND		ug/kg	1.2	--	1

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1942092-01 R
 Client ID: OUTFALL
 Sample Location: 55 SUMMER ST

Date Collected: 09/12/19 11:00
 Date Received: 09/13/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	2.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.4	--	1
Diethyl ether	ND		ug/kg	2.4	--	1
Diisopropyl Ether	ND		ug/kg	2.4	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.4	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.4	--	1
1,4-Dioxane	ND		ug/kg	95	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	92		70-130

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/19 20:08
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1285096-10					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/19 20:08
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1285096-10					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	10	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/19 20:08
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1285096-10					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	92		70-130

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/19 09:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1285096-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/19 09:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1285096-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	10	--
Carbon disulfide	ND		ug/kg	10	--
Methyl ethyl ketone	ND		ug/kg	10	--
Methyl isobutyl ketone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Bromochloromethane	ND		ug/kg	2.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/17/19 09:02
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1285096-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
Diethyl ether	ND		ug/kg	2.0	--
Diisopropyl Ether	ND		ug/kg	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	--
1,4-Dioxane	ND		ug/kg	80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	92		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Parameter	LCS		LCSD		%Recovery		RPD	RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual		Limits	
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1285096-3 WG1285096-4									
Methylene chloride	93		94		70-130		1		20
1,1-Dichloroethane	99		99		70-130		0		20
Chloroform	97		98		70-130		1		20
Carbon tetrachloride	98		99		70-130		1		20
1,2-Dichloropropane	95		96		70-130		1		20
Dibromochloromethane	94		96		70-130		2		20
1,1,2-Trichloroethane	88		91		70-130		3		20
Tetrachloroethene	97		95		70-130		2		20
Chlorobenzene	94		96		70-130		2		20
Trichlorofluoromethane	99		98		70-130		1		20
1,2-Dichloroethane	97		98		70-130		1		20
1,1,1-Trichloroethane	102		102		70-130		0		20
Bromodichloromethane	97		99		70-130		2		20
trans-1,3-Dichloropropene	93		95		70-130		2		20
cis-1,3-Dichloropropene	94		96		70-130		2		20
1,1-Dichloropropene	98		98		70-130		0		20
Bromoform	84		85		70-130		1		20
1,1,2,2-Tetrachloroethane	89		91		70-130		2		20
Benzene	94		95		70-130		1		20
Toluene	92		94		70-130		2		20
Ethylbenzene	96		96		70-130		0		20
Chloromethane	118		118		70-130		0		20
Bromomethane	90		89		70-130		1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE

Lab Number: L1942092

Project Number: 2019-51A

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1285096-3 WG1285096-4								
Vinyl chloride	99		98		70-130	1		20
Chloroethane	92		89		70-130	3		20
1,1-Dichloroethene	96		96		70-130	0		20
trans-1,2-Dichloroethene	96		96		70-130	0		20
Trichloroethene	96		97		70-130	1		20
1,2-Dichlorobenzene	92		93		70-130	1		20
1,3-Dichlorobenzene	94		95		70-130	1		20
1,4-Dichlorobenzene	94		94		70-130	0		20
Methyl tert butyl ether	86		88		70-130	2		20
p/m-Xylene	97		98		70-130	1		20
o-Xylene	94		95		70-130	1		20
cis-1,2-Dichloroethene	93		94		70-130	1		20
Dibromomethane	93		92		70-130	1		20
1,2,3-Trichloropropane	88		89		70-130	1		20
Styrene	94		96		70-130	2		20
Dichlorodifluoromethane	102		100		70-130	2		20
Acetone	112		115		70-130	3		20
Carbon disulfide	93		93		70-130	0		20
Methyl ethyl ketone	99		104		70-130	5		20
Methyl isobutyl ketone	89		92		70-130	3		20
2-Hexanone	100		102		70-130	2		20
Bromochloromethane	95		95		70-130	0		20
Tetrahydrofuran	104		109		70-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1285096-3 WG1285096-4								
2,2-Dichloropropane	97		97		70-130	0		20
1,2-Dibromoethane	92		94		70-130	2		20
1,3-Dichloropropane	89		91		70-130	2		20
1,1,1,2-Tetrachloroethane	97		98		70-130	1		20
Bromobenzene	88		89		70-130	1		20
n-Butylbenzene	97		97		70-130	0		20
sec-Butylbenzene	94		95		70-130	1		20
tert-Butylbenzene	93		93		70-130	0		20
o-Chlorotoluene	94		95		70-130	1		20
p-Chlorotoluene	96		96		70-130	0		20
1,2-Dibromo-3-chloropropane	84		85		70-130	1		20
Hexachlorobutadiene	83		83		70-130	0		20
Isopropylbenzene	95		94		70-130	1		20
p-Isopropyltoluene	94		95		70-130	1		20
Naphthalene	88		89		70-130	1		20
n-Propylbenzene	96		97		70-130	1		20
1,2,3-Trichlorobenzene	88		90		70-130	2		20
1,2,4-Trichlorobenzene	92		92		70-130	0		20
1,3,5-Trimethylbenzene	95		95		70-130	0		20
1,2,4-Trimethylbenzene	95		96		70-130	1		20
Diethyl ether	88		88		70-130	0		20
Diisopropyl Ether	110		111		70-130	1		20
Ethyl-Tert-Butyl-Ether	93		95		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE

Project Number: 2019-51A

Lab Number: L1942092

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1285096-3 WG1285096-4								
Tertiary-Amyl Methyl Ether	83		85		70-130	2		20
1,4-Dioxane	95		102		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		101		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	96		96		70-130
Dibromofluoromethane	96		98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE

Lab Number: L1942092

Project Number: 2019-51A

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1285096-8 WG1285096-9								
Methylene chloride	89		86		70-130	3		20
1,1-Dichloroethane	104		101		70-130	3		20
Chloroform	102		100		70-130	2		20
Carbon tetrachloride	101		99		70-130	2		20
1,2-Dichloropropane	100		99		70-130	1		20
Dibromochloromethane	100		100		70-130	0		20
1,1,2-Trichloroethane	94		93		70-130	1		20
Tetrachloroethene	100		97		70-130	3		20
Chlorobenzene	101		99		70-130	2		20
Trichlorofluoromethane	101		95		70-130	6		20
1,2-Dichloroethane	102		99		70-130	3		20
1,1,1-Trichloroethane	105		101		70-130	4		20
Bromodichloromethane	103		101		70-130	2		20
trans-1,3-Dichloropropene	100		98		70-130	2		20
cis-1,3-Dichloropropene	100		97		70-130	3		20
1,1-Dichloropropene	100		98		70-130	2		20
Bromoform	90		88		70-130	2		20
1,1,2,2-Tetrachloroethane	95		94		70-130	1		20
Benzene	100		97		70-130	3		20
Toluene	98		96		70-130	2		20
Ethylbenzene	102		100		70-130	2		20
Chloromethane	124		119		70-130	4		20
Bromomethane	100		93		70-130	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE

Lab Number: L1942092

Project Number: 2019-51A

Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1285096-8 WG1285096-9								
Vinyl chloride	103		100		70-130	3		20
Chloroethane	92		89		70-130	3		20
1,1-Dichloroethene	99		95		70-130	4		20
trans-1,2-Dichloroethene	100		96		70-130	4		20
Trichloroethene	102		98		70-130	4		20
1,2-Dichlorobenzene	98		96		70-130	2		20
1,3-Dichlorobenzene	101		99		70-130	2		20
1,4-Dichlorobenzene	100		98		70-130	2		20
Methyl tert butyl ether	91		89		70-130	2		20
p/m-Xylene	102		101		70-130	1		20
o-Xylene	100		99		70-130	1		20
cis-1,2-Dichloroethene	99		96		70-130	3		20
Dibromomethane	96		95		70-130	1		20
1,2,3-Trichloropropane	93		92		70-130	1		20
Styrene	100		100		70-130	0		20
Dichlorodifluoromethane	105		99		70-130	6		20
Acetone	123		116		70-130	6		20
Carbon disulfide	95		92		70-130	3		20
Methyl ethyl ketone	112		103		70-130	8		20
Methyl isobutyl ketone	99		94		70-130	5		20
2-Hexanone	108		105		70-130	3		20
Bromochloromethane	101		97		70-130	4		20
Tetrahydrofuran	113		110		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE

Lab Number: L1942092

Project Number: 2019-51A

Report Date: 09/18/19

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1285096-8 WG1285096-9								
2,2-Dichloropropane	99		95		70-130	4		20
1,2-Dibromoethane	97		96		70-130	1		20
1,3-Dichloropropane	94		94		70-130	0		20
1,1,1,2-Tetrachloroethane	102		101		70-130	1		20
Bromobenzene	94		93		70-130	1		20
n-Butylbenzene	104		102		70-130	2		20
sec-Butylbenzene	101		99		70-130	2		20
tert-Butylbenzene	100		98		70-130	2		20
o-Chlorotoluene	100		99		70-130	1		20
p-Chlorotoluene	102		101		70-130	1		20
1,2-Dibromo-3-chloropropane	90		88		70-130	2		20
Hexachlorobutadiene	92		90		70-130	2		20
Isopropylbenzene	100		97		70-130	3		20
p-Isopropyltoluene	102		100		70-130	2		20
Naphthalene	96		93		70-130	3		20
n-Propylbenzene	101		100		70-130	1		20
1,2,3-Trichlorobenzene	96		95		70-130	1		20
1,2,4-Trichlorobenzene	100		96		70-130	4		20
1,3,5-Trimethylbenzene	102		100		70-130	2		20
1,2,4-Trimethylbenzene	101		100		70-130	1		20
Diethyl ether	92		89		70-130	3		20
Diisopropyl Ether	115		114		70-130	1		20
Ethyl-Tert-Butyl-Ether	99		97		70-130	2		20

Lab Control Sample Analysis Batch Quality Control

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1285096-8 WG1285096-9								
Tertiary-Amyl Methyl Ether	89		88		70-130	1		20
1,4-Dioxane	102		96		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		98		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	96		96		70-130

PETROLEUM HYDROCARBONS

Project Name: WALPOLE

Lab Number: L1942092

Project Number: 2019-51A

Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1942092-01
 Client ID: OUTFALL
 Sample Location: 55 SUMMER ST

Date Collected: 09/12/19 11:00
 Date Received: 09/13/19
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Analytical Method: 98,EPH-04-1.1
 Analytical Date: 09/17/19 19:30
 Analyst: MEO
 Percent Solids: 53%

Extraction Method: EPA 3546
 Extraction Date: 09/15/19 13:51
 Cleanup Method1: EPH-04-1
 Cleanup Date1: 09/17/19

Quality Control Information

Condition of sample received: Satisfactory
 Sample Temperature upon receipt: Received on Ice
 Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	12.5	--	1
C19-C36 Aliphatics	ND		mg/kg	12.5	--	1
C11-C22 Aromatics	26.9		mg/kg	12.5	--	1
C11-C22 Aromatics, Adjusted	26.9		mg/kg	12.5	--	1
Naphthalene	ND		mg/kg	0.624	--	1
2-Methylnaphthalene	ND		mg/kg	0.624	--	1
Acenaphthylene	ND		mg/kg	0.624	--	1
Acenaphthene	ND		mg/kg	0.624	--	1
Fluorene	ND		mg/kg	0.624	--	1
Phenanthrene	ND		mg/kg	0.624	--	1
Anthracene	ND		mg/kg	0.624	--	1
Fluoranthene	ND		mg/kg	0.624	--	1
Pyrene	ND		mg/kg	0.624	--	1
Benzo(a)anthracene	ND		mg/kg	0.624	--	1
Chrysene	ND		mg/kg	0.624	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.624	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.624	--	1
Benzo(a)pyrene	ND		mg/kg	0.624	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.624	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.624	--	1
Benzo(ghi)perylene	ND		mg/kg	0.624	--	1

Project Name: WALPOLE**Lab Number:** L1942092**Project Number:** 2019-51A**Report Date:** 09/18/19**SAMPLE RESULTS**

Lab ID: L1942092-01
 Client ID: OUTFALL
 Sample Location: 55 SUMMER ST

Date Collected: 09/12/19 11:00
 Date Received: 09/13/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	53		40-140
o-Terphenyl	55		40-140
2-Fluorobiphenyl	82		40-140
2-Bromonaphthalene	82		40-140

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/17/19 09:51
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 09/15/19 05:12
Cleanup Method: EPH-04-1
Cleanup Date: 09/17/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG1284297-1					
C9-C18 Aliphatics	ND		mg/kg	6.42	--
C19-C36 Aliphatics	ND		mg/kg	6.42	--
C11-C22 Aromatics	ND		mg/kg	6.42	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.42	--
Naphthalene	ND		mg/kg	0.321	--
2-Methylnaphthalene	ND		mg/kg	0.321	--
Acenaphthylene	ND		mg/kg	0.321	--
Acenaphthene	ND		mg/kg	0.321	--
Fluorene	ND		mg/kg	0.321	--
Phenanthrene	ND		mg/kg	0.321	--
Anthracene	ND		mg/kg	0.321	--
Fluoranthene	ND		mg/kg	0.321	--
Pyrene	ND		mg/kg	0.321	--
Benzo(a)anthracene	ND		mg/kg	0.321	--
Chrysene	ND		mg/kg	0.321	--
Benzo(b)fluoranthene	ND		mg/kg	0.321	--
Benzo(k)fluoranthene	ND		mg/kg	0.321	--
Benzo(a)pyrene	ND		mg/kg	0.321	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.321	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.321	--
Benzo(ghi)perylene	ND		mg/kg	0.321	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	50		40-140
o-Terphenyl	52		40-140
2-Fluorobiphenyl	79		40-140
2-Bromonaphthalene	79		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG1284297-2 WG1284297-3								
C9-C18 Aliphatics	55		62		40-140	12		25
C19-C36 Aliphatics	65		78		40-140	18		25
C11-C22 Aromatics	68		80		40-140	16		25
Naphthalene	60		68		40-140	13		25
2-Methylnaphthalene	60		67		40-140	11		25
Acenaphthylene	64		73		40-140	13		25
Acenaphthene	66		75		40-140	13		25
Fluorene	65		75		40-140	14		25
Phenanthrene	69		80		40-140	15		25
Anthracene	68		80		40-140	16		25
Fluoranthene	68		80		40-140	16		25
Pyrene	70		82		40-140	16		25
Benzo(a)anthracene	68		80		40-140	16		25
Chrysene	68		82		40-140	19		25
Benzo(b)fluoranthene	67		79		40-140	16		25
Benzo(k)fluoranthene	67		79		40-140	16		25
Benzo(a)pyrene	65		77		40-140	17		25
Indeno(1,2,3-cd)Pyrene	62		74		40-140	18		25
Dibenzo(a,h)anthracene	64		77		40-140	18		25
Benzo(ghi)perylene	60		73		40-140	20		25
Nonane (C9)	48		49		30-140	2		25
Decane (C10)	52		55		40-140	6		25
Dodecane (C12)	52		57		40-140	9		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG1284297-2 WG1284297-3								
Tetradecane (C14)	52		59		40-140	13		25
Hexadecane (C16)	54		63		40-140	15		25
Octadecane (C18)	57		67		40-140	16		25
Nonadecane (C19)	58		68		40-140	16		25
Eicosane (C20)	60		70		40-140	15		25
Docosane (C22)	61		71		40-140	15		25
Tetracosane (C24)	61		72		40-140	17		25
Hexacosane (C26)	64		75		40-140	16		25
Octacosane (C28)	64		77		40-140	18		25
Triacontane (C30)	66		79		40-140	18		25
Hexatriacontane (C36)	67		80		40-140	18		25

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
Chloro-Octadecane	58		62		40-140
o-Terphenyl	67		71		40-140
2-Fluorobiphenyl	87		91		40-140
2-Bromonaphthalene	87		91		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

METALS

Project Name: WALPOLE

Lab Number: L1942092

Project Number: 2019-51A

Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1942092-01
 Client ID: OUTFALL
 Sample Location: 55 SUMMER ST

Date Collected: 09/12/19 11:00
 Date Received: 09/13/19
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Percent Solids: 53%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/kg	3.67	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Arsenic, Total	1.61		mg/kg	0.734	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Barium, Total	46.5		mg/kg	0.734	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Beryllium, Total	ND		mg/kg	0.367	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Cadmium, Total	ND		mg/kg	0.734	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Chromium, Total	6.19		mg/kg	0.734	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Lead, Total	19.7		mg/kg	3.67	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Nickel, Total	3.03		mg/kg	1.84	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Selenium, Total	ND		mg/kg	3.67	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Silver, Total	ND		mg/kg	0.734	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Thallium, Total	ND		mg/kg	3.67	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Vanadium, Total	12.8		mg/kg	0.734	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC
Zinc, Total	30.7		mg/kg	3.67	--	1	09/16/19 16:40	09/17/19 16:09	EPA 3050B	97,6010D	LC



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1284723-1									
Antimony, Total	ND	mg/kg	2.00	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Arsenic, Total	ND	mg/kg	0.400	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Barium, Total	ND	mg/kg	0.400	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Beryllium, Total	ND	mg/kg	0.200	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Cadmium, Total	ND	mg/kg	0.400	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Chromium, Total	ND	mg/kg	0.400	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Lead, Total	ND	mg/kg	2.00	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Nickel, Total	ND	mg/kg	1.00	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Selenium, Total	ND	mg/kg	2.00	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Silver, Total	ND	mg/kg	0.400	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Thallium, Total	ND	mg/kg	2.00	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Vanadium, Total	ND	mg/kg	0.400	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC
Zinc, Total	ND	mg/kg	2.00	--	1	09/16/19 16:40	09/17/19 14:58	97,6010D	LC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE

Project Number: 2019-51A

Lab Number: L1942092

Report Date: 09/18/19

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1284723-2 WG1284723-3 SRM Lot Number: D105-540								
Antimony, Total	127		127		19-249	0		30
Arsenic, Total	89		89		70-130	0		30
Barium, Total	83		81		75-125	2		30
Beryllium, Total	88		88		75-125	0		30
Cadmium, Total	86		86		75-125	0		30
Chromium, Total	79		79		70-130	0		30
Lead, Total	81		81		71-128	0		30
Nickel, Total	82		82		70-131	0		30
Selenium, Total	89		87		63-137	2		30
Silver, Total	84		84		69-131	0		30
Thallium, Total	85		84		68-132	1		30
Vanadium, Total	78		80		65-135	3		30
Zinc, Total	84		84		70-130	0		30

INORGANICS & MISCELLANEOUS

Project Name: WALPOLE

Lab Number: L1942092

Project Number: 2019-51A

Report Date: 09/18/19

SAMPLE RESULTS

Lab ID: L1942092-01

Date Collected: 09/12/19 11:00

Client ID: OUTFALL

Date Received: 09/13/19

Sample Location: 55 SUMMER ST

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	52.8		%	0.100	NA	1	-	09/14/19 05:14	121,2540G	YA



Project Name: WALPOLE
Project Number: 2019-51A

Serial_No:09181913:47
Lab Number: L1942092
Report Date: 09/18/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler **Custody Seal**
A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1942092-01A	Vial MeOH preserved	A	NA		4.3	Y	Absent		MCP-8260HLW-10(14)
L1942092-01B	Vial water preserved	A	NA		4.3	Y	Absent	14-SEP-19 01:38	MCP-8260HLW-10(14)
L1942092-01C	Vial water preserved	A	NA		4.3	Y	Absent	14-SEP-19 01:38	MCP-8260HLW-10(14)
L1942092-01D	Plastic 2oz unpreserved for TS	A	NA		4.3	Y	Absent		TS(7)
L1942092-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.3	Y	Absent		MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-TL-6010T-10(180),MCP-AG-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),MCP-BE-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-V-6010T-10(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1942092-01F	Glass 250ml/8oz unpreserved	A	NA		4.3	Y	Absent		EPH-DELUX-10(14)

*Values in parentheses indicate holding time in days



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1.8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: Data Usability Report



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942092
Report Date: 09/18/19

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.
- 98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.

EPA 522.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

**Method Blank Summary
Form 4
Volatiles**

Client	: Enstrat	Lab Number	: L1942092
Project Name	: WALPOLE	Project Number	: 2019-51A
Lab Sample ID	: WG1285096-5	Lab File ID	: V23190917A05
Instrument ID	: VOA123		
Matrix	: SOIL	Analysis Date	: 09/17/19 09:02

Client Sample No.	Lab Sample ID	Analysis Date
WG1285096-3LCS	WG1285096-3	09/17/19 07:26
WG1285096-4LCSD	WG1285096-4	09/17/19 07:50
OUTFALL	L1942092-01	09/17/19 09:50

**Method Blank Summary
Form 4
Volatiles**

Client	: Enstrat	Lab Number	: L1942092
Project Name	: WALPOLE	Project Number	: 2019-51A
Lab Sample ID	: WG1285096-10	Lab File ID	: V23190917N04
Instrument ID	: VOA123		
Matrix	: SOIL	Analysis Date	: 09/17/19 20:08

Client Sample No.	Lab Sample ID	Analysis Date
WG1285096-8LCS	WG1285096-8	09/17/19 18:55
WG1285096-9LCSD	WG1285096-9	09/17/19 19:19
OUTFALL	L1942092-01R	09/17/19 20:32

Calibration Verification Summary

Form 7

Volatiles

Client : Enstrat
 Project Name : WALPOLE
 Instrument ID : VOA123
 Lab File ID : V23190917A01
 Sample No : WG1285096-2
 Channel :

Lab Number : L1942092
 Project Number : 2019-51A
 Calibration Date : 09/17/19 07:26
 Init. Calib. Date(s) : 06/21/19 06/21/19
 Init. Calib. Times : 03:09 06:33

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	82	-.01
Dichlorodifluoromethane	0.268	0.274	-	-2.2	20	71	0
Chloromethane	0.275	0.325	-	-18.2	20	85	0
Vinyl chloride	0.312	0.308	-	1.3	20	69	0
Bromomethane	0.233	0.209	-	10.3	20	69	0
Chloroethane	0.235	0.215	-	8.5	20	67	0
Trichlorofluoromethane	0.429	0.424	-	1.2	20	68	0
Ethyl ether	0.143	0.125	-	12.6	20	64	0
1,1-Dichloroethene	0.214	0.206	-	3.7	20	68	0
Carbon disulfide	0.725	0.674	-	7	20	69	0
Freon-113	0.216	0.207	-	4.2	20	66	0
Acrolein	0.05	0.051	-	-2	20	78	0
Methylene chloride	0.28	0.26	-	7.1	20	73	0
Acetone	20	22.467	-	-12.3	20	82	-.01
trans-1,2-Dichloroethene	0.245	0.236	-	3.7	20	69	0
Methyl acetate	0.187	0.21	-	-12.3	20	82	-.01
Methyl tert-butyl ether	0.725	0.625	-	13.8	20	62	-.01
tert-Butyl alcohol	0.038	0.033*	-	13.2	20	64	-.02
Diisopropyl ether	0.748	0.823	-	-10	20	79	-.01
1,1-Dichloroethane	0.436	0.43	-	1.4	20	70	-.01
Halothane	0.182	0.172	-	5.5	20	66	-.01
Acrylonitrile	0.093	0.096	-	-3.2	20	74	-.01
Ethyl tert-butyl ether	0.763	0.708	-	7.2	20	67	-.02
Vinyl acetate	0.662	0.71	-	-7.3	20	78	-.01
cis-1,2-Dichloroethene	0.275	0.255	-	7.3	20	67	-.01
2,2-Dichloropropane	0.366	0.354	-	3.3	20	69	-.01
Bromochloromethane	0.134	0.127	-	5.2	20	68	-.01
Cyclohexane	0.39	0.385	-	1.3	20	70	0
Chloroform	0.43	0.415	-	3.5	20	69	-.01
Ethyl acetate	0.3	0.303	-	-1	20	75	-.02
Carbon tetrachloride	0.331	0.326	-	1.5	20	70	0
Tetrahydrofuran	0.106	0.111	-	-4.7	20	77	-.02
Dibromofluoromethane	0.262	0.251	-	4.2	20	78	0
1,1,1-Trichloroethane	0.365	0.371	-	-1.6	20	70	-.01
2-Butanone	0.139	0.138	-	0.7	20	79	-.02
1,1-Dichloropropene	0.318	0.312	-	1.9	20	67	-.01
Benzene	0.959	0.906	-	5.5	20	67	-.01
tert-Amyl methyl ether	0.734	0.608	-	17.2	20	60	-.02
1,2-Dichloroethane-d4	0.29	0.283	-	2.4	20	82	-.01
1,2-Dichloroethane	0.342	0.331	-	3.2	20	70	-.01
Methyl cyclohexane	0.415	0.355	-	14.5	20	60	-.02
Trichloroethene	0.249	0.24	-	3.6	20	67	-.01
Dibromomethane	0.164	0.152	-	7.3	20	67	-.01

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Enstrat
 Project Name : WALPOLE
 Instrument ID : VOA123
 Lab File ID : V23190917A01
 Sample No : WG1285096-2
 Channel :

Lab Number : L1942092
 Project Number : 2019-51A
 Calibration Date : 09/17/19 07:26
 Init. Calib. Date(s) : 06/21/19 06/21/19
 Init. Calib. Times : 03:09 06:33

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.242	-	4.7	20	68	0
2-Chloroethyl vinyl ether	0.185	0.167	-	9.7	20	65	-.01
Bromodichloromethane	0.327	0.317	-	3.1	20	69	-.02
1,4-Dioxane	0.00343	0.00325*	-	5.2	20	72	-.02
cis-1,3-Dichloropropene	0.404	0.38	-	5.9	20	66	0
Chlorobenzene-d5	1	1	-	0	20	83	-.02
Toluene-d8	1.211	1.193	-	1.5	20	81	-.02
Toluene	0.75	0.691	-	7.9	20	67	-.01
4-Methyl-2-pentanone	0.137	0.122	-	10.9	20	65	-.02
Tetrachloroethene	0.306	0.296	-	3.3	20	67	-.02
trans-1,3-Dichloropropene	0.447	0.414	-	7.4	20	66	-.01
Ethyl methacrylate	0.415	0.33	-	20.5*	20	58	-.02
1,1,2-Trichloroethane	0.237	0.209	-	11.8	20	64	-.01
Chlorodibromomethane	0.311	0.293	-	5.8	20	67	-.02
1,3-Dichloropropane	0.475	0.423	-	10.9	20	64	-.01
1,2-Dibromoethane	0.286	0.263	-	8	20	65	-.02
2-Hexanone	0.245	0.244	-	0.4	20	75	-.02
Chlorobenzene	0.845	0.798	-	5.6	20	68	-.02
Ethylbenzene	1.401	1.338	-	4.5	20	68	-.02
1,1,1,2-Tetrachloroethane	0.297	0.288	-	3	20	68	-.02
p/m Xylene	0.545	0.527	-	3.3	20	69	0
o Xylene	0.539	0.508	-	5.8	20	67	-.02
Styrene	0.876	0.829	-	5.4	20	67	-.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	86	-.01
Bromoform	0.424	0.354	-	16.5	20	68	-.02
Isopropylbenzene	2.578	2.443	-	5.2	20	69	-.02
4-Bromofluorobenzene	0.913	0.872	-	4.5	20	81	-.01
Bromobenzene	0.679	0.597	-	12.1	20	66	-.02
n-Propylbenzene	3.032	2.903	-	4.3	20	69	-.01
1,4-Dichlorobutane	0.91	0.866	-	4.8	20	73	-.01
1,1,2,2-Tetrachloroethane	0.726	0.644	-	11.3	20	64	-.01
4-Ethyltoluene	2.552	2.385	-	6.5	20	67	-.01
2-Chlorotoluene	2.106	1.988	-	5.6	20	70	-.01
1,3,5-Trimethylbenzene	2.162	2.059	-	4.8	20	70	-.02
1,2,3-Trichloropropane	0.612	0.538	-	12.1	20	66	-.01
trans-1,4-Dichloro-2-buten	0.212	0.221	-	-4.2	20	78	0
4-Chlorotoluene	1.897	1.816	-	4.3	20	71	-.01
tert-Butylbenzene	1.876	1.747	-	6.9	20	67	-.01
1,2,4-Trimethylbenzene	2.172	2.067	-	4.8	20	70	-.02
sec-Butylbenzene	2.799	2.638	-	5.8	20	68	-.01
p-Isopropyltoluene	2.388	2.253	-	5.7	20	68	-.02
1,3-Dichlorobenzene	1.306	1.222	-	6.4	20	70	-.01
1,4-Dichlorobenzene	1.32	1.239	-	6.1	20	71	-.01

* Value outside of QC limits.



Calibration Verification Summary Form 7 Volatiles

Client : Enstrat
 Project Name : WALPOLE
 Instrument ID : VOA123
 Lab File ID : V23190917A01
 Sample No : WG1285096-2
 Channel :

Lab Number : L1942092
 Project Number : 2019-51A
 Calibration Date : 09/17/19 07:26
 Init. Calib. Date(s) : 06/21/19 06/21/19
 Init. Calib. Times : 03:09 06:33

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.352	-	7.8	20	68	-0.01
n-Butylbenzene	2.231	2.158	-	3.3	20	70	-0.01
1,2-Dichlorobenzene	1.255	1.149	-	8.4	20	69	-0.01
1,2,4,5-Tetramethylbenzene	2.325	2.087	-	10.2	20	66	-0.01
1,2-Dibromo-3-chloropropan	0.136	0.114	-	16.2	20	66	-0.01
1,3,5-Trichlorobenzene	0.913	0.844	-	7.6	20	69	-0.01
Hexachlorobutadiene	0.428	0.355	-	17.1	20	62	-0.01
1,2,4-Trichlorobenzene	0.862	0.791	-	8.2	20	68	-0.01
Naphthalene	2.486	2.175	-	12.5	20	65	-0.01
1,2,3-Trichlorobenzene	0.842	0.737	-	12.5	20	65	-0.01

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Enstrat
 Project Name : WALPOLE
 Instrument ID : VOA123
 Lab File ID : V23190917N01
 Sample No : WG1285096-7
 Channel :

Lab Number : L1942092
 Project Number : 2019-51A
 Calibration Date : 09/17/19 18:55
 Init. Calib. Date(s) : 06/21/19 06/21/19
 Init. Calib. Times : 03:09 06:33

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	86	-.01
Dichlorodifluoromethane	0.268	0.283	-	-5.6	20	77	0
Chloromethane	0.275	0.341	-	-24*	20	93	0
Vinyl chloride	0.312	0.321	-	-2.9	20	75	0
Bromomethane	0.233	0.235	-	-0.9	20	81	0
Chloroethane	0.235	0.217	-	7.7	20	71	0
Trichlorofluoromethane	0.429	0.432	-	-0.7	20	73	0
Ethyl ether	0.143	0.132	-	7.7	20	71	0
1,1-Dichloroethene	0.214	0.211	-	1.4	20	73	0
Carbon disulfide	0.725	0.686	-	5.4	20	74	0
Freon-113	0.216	0.213	-	1.4	20	72	0
Acrolein	0.05	0.056	-	-12	20	90	0
Methylene chloride	0.28	0.248	-	11.4	20	73	0
Acetone	20	24.62	-	-23.1*	20	93	-.01
trans-1,2-Dichloroethene	0.245	0.245	-	0	20	75	0
Methyl acetate	0.187	0.223	-	-19.3	20	91	-.01
Methyl tert-butyl ether	0.725	0.66	-	9	20	69	-.01
tert-Butyl alcohol	0.038	0.036*	-	5.3	20	73	-.01
Diisopropyl ether	0.748	0.861	-	-15.1	20	87	-.01
1,1-Dichloroethane	0.436	0.452	-	-3.7	20	77	-.01
Halothane	0.182	0.177	-	2.7	20	71	-.01
Acrylonitrile	0.093	0.1	-	-7.5	20	81	0
Ethyl tert-butyl ether	0.763	0.755	-	1	20	75	-.02
Vinyl acetate	0.662	0.753	-	-13.7	20	87	-.01
cis-1,2-Dichloroethene	0.275	0.272	-	1.1	20	74	-.01
2,2-Dichloropropane	0.366	0.361	-	1.4	20	73	-.01
Bromochloromethane	0.134	0.135	-	-0.7	20	76	-.01
Cyclohexane	0.39	0.399	-	-2.3	20	76	0
Chloroform	0.43	0.437	-	-1.6	20	76	-.01
Ethyl acetate	0.3	0.336	-	-12	20	87	-.02
Carbon tetrachloride	0.331	0.336	-	-1.5	20	75	-.01
Tetrahydrofuran	0.106	0.121	-	-14.2	20	88	-.02
Dibromofluoromethane	0.262	0.252	-	3.8	20	82	-.01
1,1,1-Trichloroethane	0.365	0.382	-	-4.7	20	75	-.01
2-Butanone	0.139	0.156	-	-12.2	20	94	-.02
1,1-Dichloropropene	0.318	0.32	-	-0.6	20	72	0
Benzene	0.959	0.955	-	0.4	20	74	-.01
tert-Amyl methyl ether	0.734	0.655	-	10.8	20	68	-.02
1,2-Dichloroethane-d4	0.29	0.289	-	0.3	20	88	-.01
1,2-Dichloroethane	0.342	0.351	-	-2.6	20	78	-.01
Methyl cyclohexane	0.415	0.377	-	9.2	20	67	-.01
Trichloroethene	0.249	0.253	-	-1.6	20	75	-.01
Dibromomethane	0.164	0.158	-	3.7	20	73	-.01

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Enstrat
 Project Name : WALPOLE
 Instrument ID : VOA123
 Lab File ID : V23190917N01
 Sample No : WG1285096-7
 Channel :

Lab Number : L1942092
 Project Number : 2019-51A
 Calibration Date : 09/17/19 18:55
 Init. Calib. Date(s) : 06/21/19 06/21/19
 Init. Calib. Times : 03:09 06:33

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.254	0.255	-	-0.4	20	75	-0.02
2-Chloroethyl vinyl ether	0.185	0.179	-	3.2	20	73	-0.01
Bromodichloromethane	0.327	0.335	-	-2.4	20	76	-0.02
1,4-Dioxane	0.00343	0.00351*	-	-2.3	20	81	-0.02
cis-1,3-Dichloropropene	0.404	0.402	-	0.5	20	73	-0.01
Chlorobenzene-d5	1	1	-	0	20	87	-0.01
Toluene-d8	1.211	1.184	-	2.2	20	84	-0.01
Toluene	0.75	0.738	-	1.6	20	75	-0.01
4-Methyl-2-pentanone	0.137	0.135	-	1.5	20	76	-0.02
Tetrachloroethene	0.306	0.307	-	-0.3	20	73	-0.02
trans-1,3-Dichloropropene	0.447	0.445	-	0.4	20	74	-0.01
Ethyl methacrylate	0.415	0.354	-	14.7	20	65	-0.02
1,1,2-Trichloroethane	0.237	0.224	-	5.5	20	72	-0.01
Chlorodibromomethane	0.311	0.31	-	0.3	20	75	-0.02
1,3-Dichloropropane	0.475	0.449	-	5.5	20	72	-0.01
1,2-Dibromoethane	0.286	0.276	-	3.5	20	72	-0.01
2-Hexanone	0.245	0.263	-	-7.3	20	85	-0.02
Chlorobenzene	0.845	0.853	-	-0.9	20	76	-0.02
Ethylbenzene	1.401	1.423	-	-1.6	20	77	-0.01
1,1,1,2-Tetrachloroethane	0.297	0.303	-	-2	20	75	-0.02
p/m Xylene	0.545	0.555	-	-1.8	20	76	-0.02
o Xylene	0.539	0.54	-	-0.2	20	75	-0.02
Styrene	0.876	0.88	-	-0.5	20	74	-0.02
1,4-Dichlorobenzene-d4	1	1	-	0	20	89	-0.01
Bromoform	0.424	0.382	-	9.9	20	76	-0.01
Isopropylbenzene	2.578	2.582	-	-0.2	20	76	-0.02
4-Bromofluorobenzene	0.913	0.894	-	2.1	20	86	-0.01
Bromobenzene	0.679	0.639	-	5.9	20	73	-0.02
n-Propylbenzene	3.032	3.061	-	-1	20	76	-0.01
1,4-Dichlorobutane	0.91	0.92	-	-1.1	20	81	-0.01
1,1,2,2-Tetrachloroethane	0.726	0.69	-	5	20	71	-0.01
4-Ethyltoluene	2.552	2.558	-	-0.2	20	75	-0.01
2-Chlorotoluene	2.106	2.117	-	-0.5	20	77	-0.01
1,3,5-Trimethylbenzene	2.162	2.201	-	-1.8	20	77	-0.02
1,2,3-Trichloropropane	0.612	0.572	-	6.5	20	73	-0.01
trans-1,4-Dichloro-2-buten	0.212	0.233	-	-9.9	20	85	-0.01
4-Chlorotoluene	1.897	1.943	-	-2.4	20	79	-0.01
tert-Butylbenzene	1.876	1.87	-	0.3	20	75	-0.01
1,2,4-Trimethylbenzene	2.172	2.201	-	-1.3	20	77	-0.01
sec-Butylbenzene	2.799	2.839	-	-1.4	20	76	-0.01
p-Isopropyltoluene	2.388	2.446	-	-2.4	20	77	-0.02
1,3-Dichlorobenzene	1.306	1.322	-	-1.2	20	78	-0.01
1,4-Dichlorobenzene	1.32	1.328	-	-0.6	20	79	-0.01

* Value outside of QC limits.



Calibration Verification Summary Form 7 Volatiles

Client : Enstrat
 Project Name : WALPOLE
 Instrument ID : VOA123
 Lab File ID : V23190917N01
 Sample No : WG1285096-7
 Channel :

Lab Number : L1942092
 Project Number : 2019-51A
 Calibration Date : 09/17/19 18:55
 Init. Calib. Date(s) : 06/21/19 06/21/19
 Init. Calib. Times : 03:09 06:33

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.466	1.458	-	0.5	20	76	-0.01
n-Butylbenzene	2.231	2.323	-	-4.1	20	78	-0.01
1,2-Dichlorobenzene	1.255	1.231	-	1.9	20	76	-0.01
1,2,4,5-Tetramethylbenzene	2.325	2.294	-	1.3	20	75	-0.01
1,2-Dibromo-3-chloropropan	0.136	0.122	-	10.3	20	73	-0.01
1,3,5-Trichlorobenzene	0.913	0.912	-	0.1	20	77	-0.01
Hexachlorobutadiene	0.428	0.394	-	7.9	20	72	0
1,2,4-Trichlorobenzene	0.862	0.86	-	0.2	20	77	-0.01
Naphthalene	2.486	2.376	-	4.4	20	74	-0.01
1,2,3-Trichlorobenzene	0.842	0.807	-	4.2	20	74	-0.01

* Value outside of QC limits.





ANALYTICAL REPORT

Lab Number:	L1942552
Client:	Enstrat 28 Lord Road Suite 205 Marlboro, MA 01752
ATTN:	Tom Luby
Phone:	(508) 460-6100
Project Name:	WALPOLE
Project Number:	2019-51A
Report Date:	09/19/19

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1942552-01	EN-1	WATER	55 SUMMER ST	09/17/19 00:00	09/17/19

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question H:

The initial calibration, associated with L1942552-01, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.0702) and 4-methyl-2-pentanone (0.0747), as well as the average response factor for 2-butanone and 4-methyl-2-pentanone.

The continuing calibration standard, associated with L1942552-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Dissolved Metals

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG1285324-3 LCSD recovery, associated with L1942552-01, is outside the acceptance criteria for selenium (122%). Re-analysis of the LCSD yielded an unacceptable recovery for selenium (133%). The LCS recovery was within acceptance criteria for this analyte; therefore, no further action was taken.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Cristin Walker

Title: Technical Director/Representative

Date: 09/19/19

QC OUTLIER SUMMARY REPORT

Project Name: WALPOLE

Project Number: 2019-51A

Lab Number: L1942552

Report Date: 09/19/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics - Westborough Lab								
8260C	Batch QC	WG1285558-3	1,4-Dioxane	LCS	146	70-130	01	potential high bias
8260C	Batch QC	WG1285558-4	1,4-Dioxane	LCSD	140	70-130	01	potential high bias
EPH w/MS Targets - Westborough Lab								
EPH-04-1.1	Batch QC	WG1285446-3	C19-C36 Aliphatics	LCSD	27	25	01	non-directional bias
EPH-04-1.1	Batch QC	WG1285446-3	Octadecane (C18)	LCSD	26	25	01	non-directional bias
EPH-04-1.1	Batch QC	WG1285446-3	Nonadecane (C19)	LCSD	27	25	01	non-directional bias
EPH-04-1.1	Batch QC	WG1285446-3	Eicosane (C20)	LCSD	29	25	01	non-directional bias
EPH-04-1.1	Batch QC	WG1285446-3	Docosane (C22)	LCSD	28	25	01	non-directional bias
EPH-04-1.1	Batch QC	WG1285446-3	Tetracosane (C24)	LCSD	29	25	01	non-directional bias
EPH-04-1.1	Batch QC	WG1285446-3	Hexacosane (C26)	LCSD	27	25	01	non-directional bias
EPH-04-1.1	Batch QC	WG1285446-3	Octacosane (C28)	LCSD	28	25	01	non-directional bias
EPH-04-1.1	Batch QC	WG1285446-3	Triacosane (C30)	LCSD	28	25	01	non-directional bias
EPH-04-1.1	Batch QC	WG1285446-3	Hexatriacontane (C36)	LCSD	26	25	01	non-directional bias
MCP Dissolved Metals - Mansfield Lab								
6010D	Batch QC	WG1285324-3	Selenium, Dissolved	LCSD	122	80-120	01	potential high bias

ORGANICS

VOLATILES

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

SAMPLE RESULTS

Lab ID: L1942552-01
 Client ID: EN-1
 Sample Location: 55 SUMMER ST

Date Collected: 09/17/19 00:00
 Date Received: 09/17/19
 Field Prep: Refer to COC

Sample Depth:

Matrix: Water
 Analytical Method: 97,8260C
 Analytical Date: 09/18/19 14:01
 Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	3.0		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: WALPOLE

Lab Number: L1942552

Project Number: 2019-51A

Report Date: 09/19/19

SAMPLE RESULTS

Lab ID: L1942552-01
 Client ID: EN-1
 Sample Location: 55 SUMMER ST

Date Collected: 09/17/19 00:00
 Date Received: 09/17/19
 Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	1.0		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	1.5		ug/l	1.0	--	1
1,2-Dichloroethene, Total	1.5		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	41		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	4.5		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: WALPOLE**Lab Number:** L1942552**Project Number:** 2019-51A**Report Date:** 09/19/19**SAMPLE RESULTS**

Lab ID: L1942552-01
 Client ID: EN-1
 Sample Location: 55 SUMMER ST

Date Collected: 09/17/19 00:00
 Date Received: 09/17/19
 Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	113		70-130

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/18/19 09:08
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1285558-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 09/18/19 09:08
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1285558-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 97,8260C
Analytical Date: 09/18/19 09:08
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1285558-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	110		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE

Lab Number: L1942552

Project Number: 2019-51A

Report Date: 09/19/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1285558-3 WG1285558-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	110		100		70-130	10		20
Chloroform	99		100		70-130	1		20
Carbon tetrachloride	98		95		70-130	3		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	94		91		70-130	3		20
1,1,2-Trichloroethane	98		96		70-130	2		20
Tetrachloroethene	86		84		70-130	2		20
Chlorobenzene	93		91		70-130	2		20
Trichlorofluoromethane	87		87		70-130	0		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	100		96		70-130	4		20
Bromodichloromethane	100		98		70-130	2		20
trans-1,3-Dichloropropene	95		92		70-130	3		20
cis-1,3-Dichloropropene	100		100		70-130	0		20
1,1-Dichloropropene	98		93		70-130	5		20
Bromoform	87		84		70-130	4		20
1,1,2,2-Tetrachloroethane	99		94		70-130	5		20
Benzene	100		99		70-130	1		20
Toluene	93		91		70-130	2		20
Ethylbenzene	93		92		70-130	1		20
Chloromethane	92		90		70-130	2		20
Bromomethane	88		83		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE

Project Number: 2019-51A

Lab Number: L1942552

Report Date: 09/19/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1285558-3 WG1285558-4								
Vinyl chloride	94		89		70-130	5		20
Chloroethane	100		100		70-130	0		20
1,1-Dichloroethene	83		95		70-130	13		20
trans-1,2-Dichloroethene	100		98		70-130	2		20
Trichloroethene	100		98		70-130	2		20
1,2-Dichlorobenzene	93		89		70-130	4		20
1,3-Dichlorobenzene	94		90		70-130	4		20
1,4-Dichlorobenzene	92		88		70-130	4		20
Methyl tert butyl ether	100		98		70-130	2		20
p/m-Xylene	95		90		70-130	5		20
o-Xylene	90		90		70-130	0		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	110		100		70-130	10		20
1,2,3-Trichloropropane	99		92		70-130	7		20
Styrene	100		95		70-130	5		20
Dichlorodifluoromethane	84		78		70-130	7		20
Acetone	120		110		70-130	9		20
Carbon disulfide	98		99		70-130	1		20
Methyl ethyl ketone	110		100		70-130	10		20
Methyl isobutyl ketone	86		76		70-130	12		20
2-Hexanone	88		82		70-130	7		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	100		100		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE

Project Number: 2019-51A

Lab Number: L1942552

Report Date: 09/19/19

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1285558-3 WG1285558-4								
2,2-Dichloropropane	100		99		70-130	1		20
1,2-Dibromoethane	97		92		70-130	5		20
1,3-Dichloropropane	95		94		70-130	1		20
1,1,1,2-Tetrachloroethane	96		92		70-130	4		20
Bromobenzene	89		87		70-130	2		20
n-Butylbenzene	96		94		70-130	2		20
sec-Butylbenzene	90		86		70-130	5		20
tert-Butylbenzene	91		84		70-130	8		20
o-Chlorotoluene	98		95		70-130	3		20
p-Chlorotoluene	97		92		70-130	5		20
1,2-Dibromo-3-chloropropane	83		80		70-130	4		20
Hexachlorobutadiene	88		80		70-130	10		20
Isopropylbenzene	92		88		70-130	4		20
p-Isopropyltoluene	93		89		70-130	4		20
Naphthalene	84		81		70-130	4		20
n-Propylbenzene	94		90		70-130	4		20
1,2,3-Trichlorobenzene	85		85		70-130	0		20
1,2,4-Trichlorobenzene	86		83		70-130	4		20
1,3,5-Trimethylbenzene	95		92		70-130	3		20
1,2,4-Trimethylbenzene	95		92		70-130	3		20
Diethyl ether	110		100		70-130	10		20
Diisopropyl Ether	100		100		70-130	0		20
Ethyl-Tert-Butyl-Ether	100		100		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE

Project Number: 2019-51A

Lab Number: L1942552

Report Date: 09/19/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1285558-3 WG1285558-4								
Tertiary-Amyl Methyl Ether	99		97		70-130	2		20
1,4-Dioxane	146	Q	140	Q	70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		104		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	103		101		70-130
Dibromofluoromethane	104		103		70-130

PETROLEUM HYDROCARBONS

Project Name: WALPOLE

Lab Number: L1942552

Project Number: 2019-51A

Report Date: 09/19/19

SAMPLE RESULTS

Lab ID: L1942552-01
 Client ID: EN-1
 Sample Location: 55 SUMMER ST

Date Collected: 09/17/19 00:00
 Date Received: 09/17/19
 Field Prep: Refer to COC

Sample Depth:
 Matrix: Water
 Analytical Method: 98,EPH-04-1.1
 Analytical Date: 09/19/19 09:29
 Analyst: MEO

M.S. Analytical Date: 09/19/19 13:49
 M.S. Analyst: DV

Extraction Method: EPA 3510C
 Extraction Date: 09/18/19 08:08
 Cleanup Method1: EPH-04-1
 Cleanup Date1: 09/18/19

Quality Control Information

Condition of sample received: Satisfactory
 Aqueous Preservative: Laboratory Provided Preserved Container
 Sample Temperature upon receipt: Received on Ice
 Sample Extraction method: Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: WALPOLE**Lab Number:** L1942552**Project Number:** 2019-51A**Report Date:** 09/19/19**SAMPLE RESULTS**

Lab ID: L1942552-01
 Client ID: EN-1
 Sample Location: 55 SUMMER ST

Date Collected: 09/17/19 00:00
 Date Received: 09/17/19
 Field Prep: Refer to COC

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	70		40-140
o-Terphenyl	100		40-140
2-Fluorobiphenyl	113		40-140
2-Bromonaphthalene	113		40-140
O-Terphenyl-MS	70		40-140

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/19/19 08:52
Analyst: MEO

M.S. Analytical Date: 09/19/19 13:24
M.S. Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/18/19 08:08
Cleanup Method: EPH-04-1
Cleanup Date: 09/18/19

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01 Batch: WG1285446-1					
C9-C18 Aliphatics	ND		ug/l	100	--
C19-C36 Aliphatics	ND		ug/l	100	--
C11-C22 Aromatics	ND		ug/l	100	--
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--
Naphthalene	ND		ug/l	0.400	--
2-Methylnaphthalene	ND		ug/l	0.400	--
Acenaphthylene	ND		ug/l	0.400	--
Acenaphthene	ND		ug/l	0.400	--
Fluorene	ND		ug/l	0.400	--
Phenanthrene	ND		ug/l	0.400	--
Anthracene	ND		ug/l	0.400	--
Fluoranthene	ND		ug/l	0.400	--
Pyrene	ND		ug/l	0.400	--
Benzo(a)anthracene	ND		ug/l	0.400	--
Chrysene	ND		ug/l	0.400	--
Benzo(b)fluoranthene	ND		ug/l	0.400	--
Benzo(k)fluoranthene	ND		ug/l	0.400	--
Benzo(a)pyrene	ND		ug/l	0.200	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--
Benzo(ghi)perylene	ND		ug/l	0.400	--

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 09/19/19 08:52
Analyst: MEO

09/19/19 13:24
DV

Extraction Method: EPA 3510C
Extraction Date: 09/18/19 08:08
Cleanup Method: EPH-04-1
Cleanup Date: 09/18/19

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01 Batch: WG1285446-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	61		40-140
o-Terphenyl	67		40-140
2-Fluorobiphenyl	80		40-140
2-Bromonaphthalene	80		40-140
O-Terphenyl-MS	56		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01 Batch: WG1285446-2 WG1285446-3								
C9-C18 Aliphatics	60		76		40-140	24		25
C19-C36 Aliphatics	70		92		40-140	27	Q	25
C11-C22 Aromatics	85		91		40-140	7		25
Naphthalene	73		62		40-140	16		25
2-Methylnaphthalene	73		60		40-140	20		25
Acenaphthylene	91		74		40-140	21		25
Acenaphthene	82		66		40-140	22		25
Fluorene	83		68		40-140	20		25
Phenanthrene	82		68		40-140	19		25
Anthracene	89		77		40-140	14		25
Fluoranthene	90		78		40-140	14		25
Pyrene	93		79		40-140	16		25
Benzo(a)anthracene	88		75		40-140	16		25
Chrysene	82		69		40-140	17		25
Benzo(b)fluoranthene	86		70		40-140	21		25
Benzo(k)fluoranthene	78		71		40-140	9		25
Benzo(a)pyrene	85		73		40-140	15		25
Indeno(1,2,3-cd)Pyrene	86		72		40-140	18		25
Dibenzo(a,h)anthracene	87		74		40-140	16		25
Benzo(ghi)perylene	76		64		40-140	17		25
Nonane (C9)	52		64		30-140	21		25
Decane (C10)	57		71		40-140	22		25
Dodecane (C12)	57		71		40-140	22		25

Lab Control Sample Analysis Batch Quality Control

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
EPH w/MS Targets - Westborough Lab Associated sample(s): 01 Batch: WG1285446-2 WG1285446-3								
Tetradecane (C14)	57		71		40-140	22		25
Hexadecane (C16)	59		75		40-140	24		25
Octadecane (C18)	63		82		40-140	26	Q	25
Nonadecane (C19)	64		84		40-140	27	Q	25
Eicosane (C20)	66		88		40-140	29	Q	25
Docosane (C22)	67		89		40-140	28	Q	25
Tetracosane (C24)	66		88		40-140	29	Q	25
Hexacosane (C26)	67		88		40-140	27	Q	25
Octacosane (C28)	67		89		40-140	28	Q	25
Triacontane (C30)	68		90		40-140	28	Q	25
Hexatriacontane (C36)	71		92		40-140	26	Q	25

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
Chloro-Octadecane	66		84		40-140
o-Terphenyl	84		88		40-140
2-Fluorobiphenyl	88		93		40-140
2-Bromonaphthalene	88		93		40-140
O-Terphenyl-MS	78		64		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

METALS

Project Name: WALPOLE

Lab Number: L1942552

Project Number: 2019-51A

Report Date: 09/19/19

SAMPLE RESULTS

Lab ID: L1942552-01
 Client ID: EN-1
 Sample Location: 55 SUMMER ST

Date Collected: 09/17/19 00:00
 Date Received: 09/17/19
 Field Prep: Refer to COC

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Metals - Mansfield Lab											
Antimony, Dissolved	ND		mg/l	0.0040	--	1	09/18/19 04:20	09/18/19 17:32	EPA 3005A	97,6020B	AM
Arsenic, Dissolved	ND		mg/l	0.005	--	1	09/18/19 04:20	09/18/19 21:38	EPA 3005A	97,6010D	AB
Beryllium, Dissolved	ND		mg/l	0.0005	--	1	09/18/19 04:20	09/18/19 17:32	EPA 3005A	97,6020B	AM
Cadmium, Dissolved	ND		mg/l	0.004	--	1	09/18/19 04:20	09/18/19 21:38	EPA 3005A	97,6010D	AB
Chromium, Dissolved	ND		mg/l	0.010	--	1	09/18/19 04:20	09/18/19 21:38	EPA 3005A	97,6010D	AB
Copper, Dissolved	0.017		mg/l	0.010	--	1	09/18/19 04:20	09/18/19 21:38	EPA 3005A	97,6010D	AB
Lead, Dissolved	ND		mg/l	0.010	--	1	09/18/19 04:20	09/18/19 21:38	EPA 3005A	97,6010D	AB
Mercury, Dissolved	ND		mg/l	0.0002	--	1	09/18/19 12:38	09/18/19 23:23	EPA 7470A	97,7470A	GD
Nickel, Dissolved	ND		mg/l	0.025	--	1	09/18/19 04:20	09/18/19 21:38	EPA 3005A	97,6010D	AB
Selenium, Dissolved	ND		mg/l	0.010	--	1	09/18/19 04:20	09/18/19 21:38	EPA 3005A	97,6010D	AB
Silver, Dissolved	ND		mg/l	0.007	--	1	09/18/19 04:20	09/18/19 21:38	EPA 3005A	97,6010D	AB
Thallium, Dissolved	ND		mg/l	0.0005	--	1	09/18/19 04:20	09/18/19 17:32	EPA 3005A	97,6020B	AM
Zinc, Dissolved	ND		mg/l	0.050	--	1	09/18/19 04:20	09/18/19 21:38	EPA 3005A	97,6010D	AB



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Mansfield Lab for sample(s): 01 Batch: WG1285324-1									
Arsenic, Dissolved	ND	mg/l	0.005	--	1	09/18/19 04:20	09/18/19 21:03	97,6010D	AB
Cadmium, Dissolved	ND	mg/l	0.004	--	1	09/18/19 04:20	09/18/19 21:03	97,6010D	AB
Chromium, Dissolved	ND	mg/l	0.010	--	1	09/18/19 04:20	09/18/19 21:03	97,6010D	AB
Copper, Dissolved	ND	mg/l	0.010	--	1	09/18/19 04:20	09/18/19 21:03	97,6010D	AB
Lead, Dissolved	ND	mg/l	0.010	--	1	09/18/19 04:20	09/18/19 21:03	97,6010D	AB
Nickel, Dissolved	ND	mg/l	0.025	--	1	09/18/19 04:20	09/18/19 21:03	97,6010D	AB
Selenium, Dissolved	ND	mg/l	0.010	--	1	09/18/19 04:20	09/18/19 21:03	97,6010D	AB
Silver, Dissolved	ND	mg/l	0.007	--	1	09/18/19 04:20	09/18/19 21:03	97,6010D	AB
Zinc, Dissolved	ND	mg/l	0.050	--	1	09/18/19 04:20	09/18/19 21:03	97,6010D	AB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Mansfield Lab for sample(s): 01 Batch: WG1285327-1									
Antimony, Dissolved	ND	mg/l	0.0040	--	1	09/18/19 04:20	09/18/19 17:36	97,6020B	AM
Beryllium, Dissolved	ND	mg/l	0.0005	--	1	09/18/19 04:20	09/18/19 17:36	97,6020B	AM
Thallium, Dissolved	ND	mg/l	0.0005	--	1	09/18/19 04:20	09/18/19 17:36	97,6020B	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Mansfield Lab for sample(s): 01 Batch: WG1285608-1									
Mercury, Dissolved	ND	mg/l	0.0002	--	1	09/18/19 12:38	09/18/19 23:14	97,7470A	GD

Project Name: WALPOLE

Lab Number: L1942552

Project Number: 2019-51A

Report Date: 09/19/19

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 7470A

Lab Control Sample Analysis

Batch Quality Control

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Dissolved Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1285324-2 WG1285324-3								
Arsenic, Dissolved	118		118		80-120	0		20
Cadmium, Dissolved	108		110		80-120	2		20
Chromium, Dissolved	102		101		80-120	1		20
Copper, Dissolved	101		102		80-120	1		20
Lead, Dissolved	108		110		80-120	2		20
Nickel, Dissolved	104		106		80-120	2		20
Selenium, Dissolved	115		122	Q	80-120	6		20
Silver, Dissolved	104		104		80-120	0		20
Zinc, Dissolved	107		109		80-120	2		20
MCP Dissolved Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1285327-2 WG1285327-3								
Antimony, Dissolved	99		106		80-120	7		20
Beryllium, Dissolved	112		114		80-120	2		20
Thallium, Dissolved	115		120		80-120	4		20
MCP Dissolved Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1285608-2 WG1285608-3								
Mercury, Dissolved	91		90		80-120	1		20

Project Name: WALPOLE**Lab Number:** L1942552**Project Number:** 2019-51A**Report Date:** 09/19/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1942552-01A	Vial HCl preserved	A	NA		3.8	Y	Absent		MCP-8260-10(14)
L1942552-01B	Vial HCl preserved	A	NA		3.8	Y	Absent		MCP-8260-10(14)
L1942552-01C	Vial HCl preserved	A	NA		3.8	Y	Absent		MCP-8260-10(14)
L1942552-01D	Plastic 250ml HNO3 preserved	A	<2	<2	3.8	Y	Absent		MCP-BE-6020S-10(180),MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-SB-6020S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-TL-6020S-10(180),MCP-PB-6010S-10(180),MCP-CU-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180)
L1942552-01E	Amber 1000ml HCl preserved	A	<2	<2	3.8	Y	Absent		EPH-MS-10(14),EPHD-GC-10(14)

Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1.8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: Data Usability Report



Project Name: WALPOLE
Project Number: 2019-51A

Lab Number: L1942552
Report Date: 09/19/19

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.
- 98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.

EPA 522.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 9/17/19 ALPHA Job #: 21942562

8 Walkup Drive Westboro, MA 01581 Tel: 508-898-9220
 320 Forbes Blvd Mansfield, MA 02048 Tel: 508-822-9300

Project Information

Project Name: NAUBOLE
 Project Location: 55 SUMMER ST
 Project #: 2019-51A
 Project Manager: JOD
 ALPHA Quote #:

Report Information - Data Deliverables

ADEx EMAIL Same as Client info PO #:

Client Information

Client: ENSTRAT
 Address:
 Phone: 508 460 6100
 Email: JODDISC@ENSTRAT.NET

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)
 Date Due: 9/19/19 * 9:00 AM
TAT PER NUBOLE

Regulatory Requirements & Project Information Requirements

Yes No MA MCP Analytical Methods Yes No CT RCP Analytical Methods
 Yes No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
 Yes No GW1 Standards (Info Required for Metals & EPH with Targets)
 Yes No NPDES RGP
 Other State /Fed Program Criteria

Additional Project Information:

*EPH - ONE BOTTLE - WELL DRY

ANALYSIS		SAMPLE INFO	
VOC: <input checked="" type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	Filtration	<input checked="" type="checkbox"/> Field
METALS: <input checked="" type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8	<input type="checkbox"/> Lab to do	
EPH: <input checked="" type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only *	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	Preservation	<input type="checkbox"/> Lab to do
TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint			
TOTAL # BOTTLES		Sample Comments	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
<u>42552-01</u>	<u>EN-1</u>	<u>9/17/19</u>		<u>GW</u>	<u>JOD</u>

Container Type
 P= Plastic
 A= Amber glass
 V= Vial
 G= Glass
 B= Bacteria cup
 C= Cube
 O= Other
 E= Encore
 D= BOD Bottle

Preservative
 A= None
 B= HCl
 C= HNO₃
 D= H₂SO₄
 E= NaOH
 F= MeOH
 G= NaHSO₄
 H= Na₂S₂O₃
 I= Ascorbic Acid
 J= NH₄Cl
 K= Zn Acetate
 O= Other

Container Type	<u>V</u>	<u>P</u>	<u>A</u>
Preservative	<u>B</u>	<u>F</u>	<u>B</u>

Relinquished By:	Date/Time	Received By:	Date/Time
<u>[Signature]</u>	<u>9/17/19 09:19</u>	<u>[Signature]</u>	<u>9/17/19 09:19</u>
<u>Rob Macris</u>	<u>9/17/19 11:55</u>	<u>Rob Macris</u>	<u>9/17/19 11:55</u>

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.
 FORM NO: 01-01 (rev. 12-Mar-2012)

**Method Blank Summary
Form 4
Volatiles**

Client	: Enstrat	Lab Number	: L1942552
Project Name	: WALPOLE	Project Number	: 2019-51A
Lab Sample ID	: WG1285558-5	Lab File ID	: V16190918A05
Instrument ID	: VOA116		
Matrix	: WATER	Analysis Date	: 09/18/19 09:08

Client Sample No.	Lab Sample ID	Analysis Date
WG1285558-3LCS	WG1285558-3	09/18/19 07:56
WG1285558-4LCSD	WG1285558-4	09/18/19 08:20
EN-1	L1942552-01	09/18/19 14:01

Calibration Verification Summary

Form 7

Volatiles

Client : Enstrat
 Project Name : WALPOLE
 Instrument ID : VOA116
 Lab File ID : V16190918A02
 Sample No : WG1285558-2
 Channel :

Lab Number : L1942552
 Project Number : 2019-51A
 Calibration Date : 09/18/19 07:56
 Init. Calib. Date(s) : 09/04/19 09/04/19
 Init. Calib. Times : 06:09 09:19

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	76	-.01
Dichlorodifluoromethane	0.231	0.195	-	15.6	20	62	0
Chloromethane	0.329	0.304	-	7.6	20	70	0
Vinyl chloride	0.272	0.256	-	5.9	20	72	0
Bromomethane	0.116	0.103	-	11.2	20	73	0
Chloroethane	0.16	0.162	-	-1.3	20	77	0
Trichlorofluoromethane	0.322	0.281	-	12.7	20	65	0
Ethyl ether	0.09	0.099	-	-10	20	83	0
1,1-Dichloroethene	0.189	0.158	-	16.4	20	60	0
Carbon disulfide	0.557	0.545	-	2.2	20	71	0
Freon-113	0.198	0.179	-	9.6	20	64	0
Iodomethane	10	4.8	-	52*	20	36	0
Acrolein	0.034	0.037*	-	-8.8	20	88	0
Methylene chloride	0.211	0.22	-	-4.3	20	78	0
Acetone	10	12.504	-	-25*	20	93	-.01
trans-1,2-Dichloroethene	0.207	0.207	-	0	20	76	0
Methyl acetate	0.138	0.157	-	-13.8	20	88	0
Methyl tert-butyl ether	0.441	0.453	-	-2.7	20	80	0
tert-Butyl alcohol	0.014	0.016*	-	-14.3	20	97	0
Diisopropyl ether	0.826	0.855	-	-3.5	20	79	0
1,1-Dichloroethane	0.421	0.45	-	-6.9	20	77	0
Halothane	0.163	0.165	-	-1.2	20	71	0
Acrylonitrile	10	11.073	-	-10.7	20	79	0
Ethyl tert-butyl ether	0.657	0.665	-	-1.2	20	78	0
Vinyl acetate	0.541	0.583	-	-7.8	20	83	0
cis-1,2-Dichloroethene	0.223	0.235	-	-5.4	20	77	0
2,2-Dichloropropane	0.308	0.317	-	-2.9	20	77	0
Bromochloromethane	0.102	0.108	-	-5.9	20	74	0
Cyclohexane	0.436	0.4	-	8.3	20	65	0
Chloroform	0.387	0.383	-	1	20	79	0
Ethyl acetate	0.183	0.199	-	-8.7	20	84	0
Carbon tetrachloride	0.292	0.288	-	1.4	20	72	0
Tetrahydrofuran	10	10.304	-	-3	20	85	0
Dibromofluoromethane	0.275	0.285	-	-3.6	20	78	0
1,1,1-Trichloroethane	0.325	0.326	-	-0.3	20	74	0
2-Butanone	0.077	0.084*	-	-9.1	20	84	0
1,1-Dichloropropene	0.271	0.267	-	1.5	20	72	0
Benzene	0.836	0.857	-	-2.5	20	77	-.01
tert-Amyl methyl ether	0.476	0.471	-	1.1	20	77	-.01
1,2-Dichloroethane-d4	0.301	0.321	-	-6.6	20	81	-.01
1,2-Dichloroethane	0.279	0.31	-	-11.1	20	84	0
Methyl cyclohexane	0.346	0.315	-	9	20	67	-.01
Trichloroethene	0.219	0.219	-	0	20	74	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Enstrat
 Project Name : WALPOLE
 Instrument ID : VOA116
 Lab File ID : V16190918A02
 Sample No : WG1285558-2
 Channel :

Lab Number : L1942552
 Project Number : 2019-51A
 Calibration Date : 09/18/19 07:56
 Init. Calib. Date(s) : 09/04/19 09/04/19
 Init. Calib. Times : 06:09 09:19

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Dibromomethane	0.117	0.126	-	-7.7	20	83	-.01
1,2-Dichloropropane	0.235	0.242	-	-3	20	77	0
2-Chloroethyl vinyl ether	0.106	0.08	-	24.5*	20	66	0
Bromodichloromethane	0.281	0.291	-	-3.6	20	80	-.01
1,4-Dioxane	500	729.167	-	-45.8*	20	122	0
cis-1,3-Dichloropropene	0.336	0.345	-	-2.7	20	76	-.01
Chlorobenzene-d5	1	1	-	0	20	81	-.01
Toluene-d8	1.234	1.209	-	2	20	79	0
Toluene	0.665	0.617	-	7.2	20	74	-.01
4-Methyl-2-pentanone	0.079	0.068*	-	13.9	20	80	0
Tetrachloroethene	0.306	0.265	-	13.4	20	70	0
trans-1,3-Dichloropropene	0.361	0.344	-	4.7	20	79	-.01
Ethyl methacrylate	0.233	0.205	-	12	20	77	0
1,1,2-Trichloroethane	0.18	0.175	-	2.8	20	76	-.01
Chlorodibromomethane	0.265	0.249	-	6	20	78	-.01
1,3-Dichloropropane	0.36	0.342	-	5	20	78	-.01
1,2-Dibromoethane	0.212	0.205	-	3.3	20	79	-.01
2-Hexanone	0.144	0.126	-	12.5	20	81	0
Chlorobenzene	0.721	0.674	-	6.5	20	74	0
Ethylbenzene	1.241	1.156	-	6.8	20	73	-.01
1,1,1,2-Tetrachloroethane	0.257	0.248	-	3.5	20	76	-.01
p/m Xylene	0.497	0.464	-	6.6	20	72	-.01
o Xylene	0.471	0.435	-	7.6	20	73	-.02
Styrene	0.764	0.745	-	2.5	20	75	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	82	0
Bromoform	0.312	0.272	-	12.8	20	75	-.02
Isopropylbenzene	2.439	2.232	-	8.5	20	72	-.01
4-Bromofluorobenzene	0.892	0.918	-	-2.9	20	84	-.01
Bromobenzene	0.583	0.52	-	10.8	20	74	-.02
n-Propylbenzene	2.899	2.722	-	6.1	20	74	-.01
1,4-Dichlorobutane	0.797	0.78	-	2.1	20	81	-.01
1,1,2,2-Tetrachloroethane	0.472	0.469	-	0.6	20	82	-.02
4-Ethyltoluene	2.251	2.106	-	6.4	20	74	-.01
2-Chlorotoluene	1.87	1.843	-	1.4	20	76	0
1,3,5-Trimethylbenzene	1.95	1.847	-	5.3	20	74	-.01
1,2,3-Trichloropropane	0.378	0.374	-	1.1	20	83	-.01
trans-1,4-Dichloro-2-buten	0.151	0.133	-	11.9	20	68	-.01
4-Chlorotoluene	1.722	1.67	-	3	20	77	-.01
tert-Butylbenzene	1.702	1.545	-	9.2	20	71	-.01
1,2,4-Trimethylbenzene	1.938	1.834	-	5.4	20	74	-.01
sec-Butylbenzene	2.458	2.2	-	10.5	20	72	-.01
p-Isopropyltoluene	2.026	1.884	-	7	20	72	0
1,3-Dichlorobenzene	1.134	1.068	-	5.8	20	75	-.01

* Value outside of QC limits.



Calibration Verification Summary Form 7 Volatiles

Client : Enstrat
 Project Name : WALPOLE
 Instrument ID : VOA116
 Lab File ID : V16190918A02
 Sample No : WG1285558-2
 Channel :

Lab Number : L1942552
 Project Number : 2019-51A
 Calibration Date : 09/18/19 07:56
 Init. Calib. Date(s) : 09/04/19 09/04/19
 Init. Calib. Times : 06:09 09:19

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,4-Dichlorobenzene	1.103	1.013	-	8.2	20	75	-.01
p-Diethylbenzene	1.18	0.998	-	15.4	20	71	0
n-Butylbenzene	1.806	1.741	-	3.6	20	75	-.01
1,2-Dichlorobenzene	1.022	0.951	-	6.9	20	76	-.01
1,2,4,5-Tetramethylbenzene	1.65	1.364	-	17.3	20	73	0
1,2-Dibromo-3-chloropropan	0.072	0.059	-	18.1	20	75	-.01
1,3,5-Trichlorobenzene	0.663	0.59	-	11	20	73	-.01
Hexachlorobutadiene	0.213	0.188	-	11.7	20	73	0
1,2,4-Trichlorobenzene	0.589	0.506	-	14.1	20	74	-.01
Naphthalene	1.352	1.134	-	16.1	20	74	-.01
1,2,3-Trichlorobenzene	0.537	0.459	-	14.5	20	73	0

* Value outside of QC limits.

